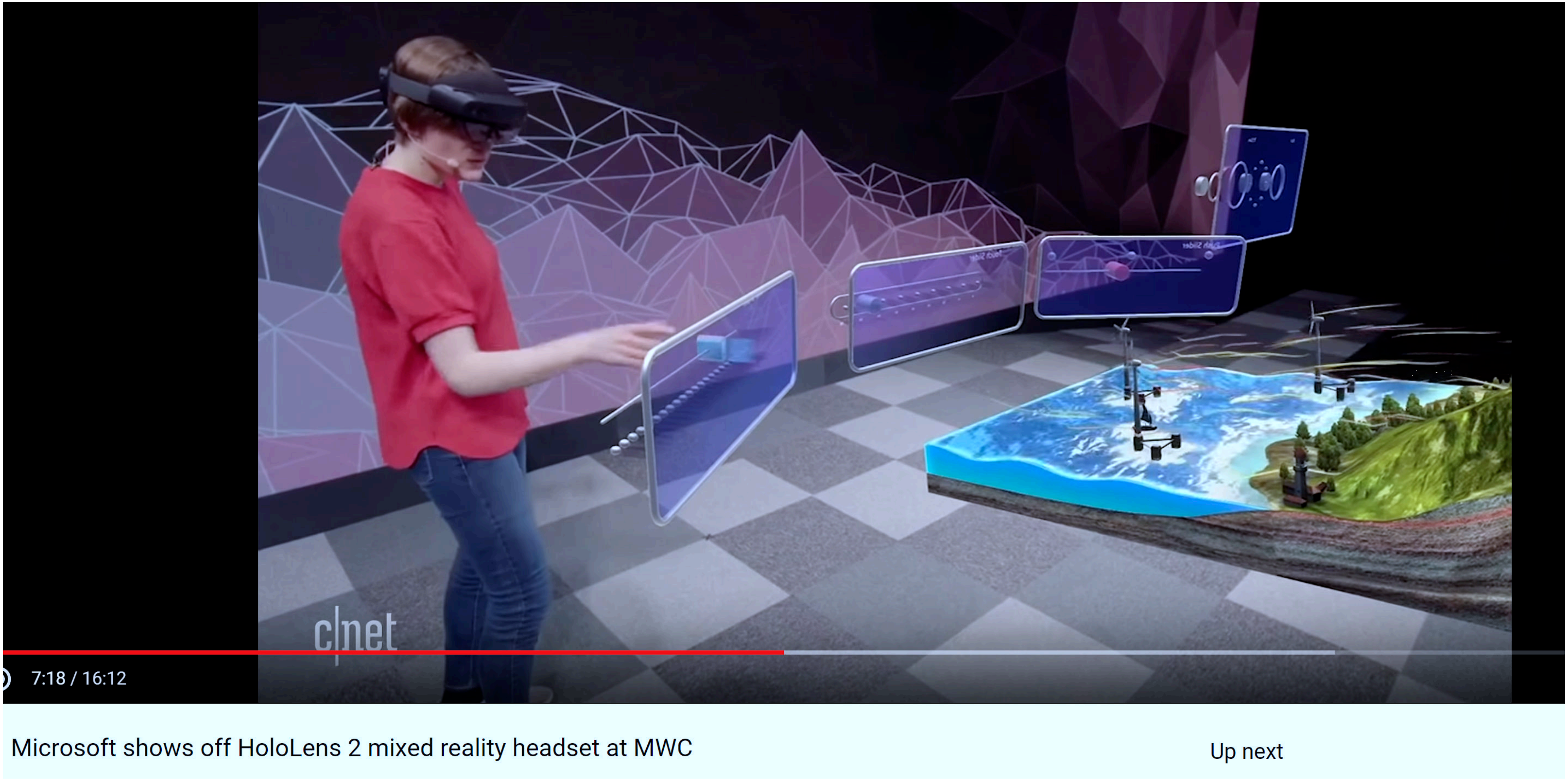
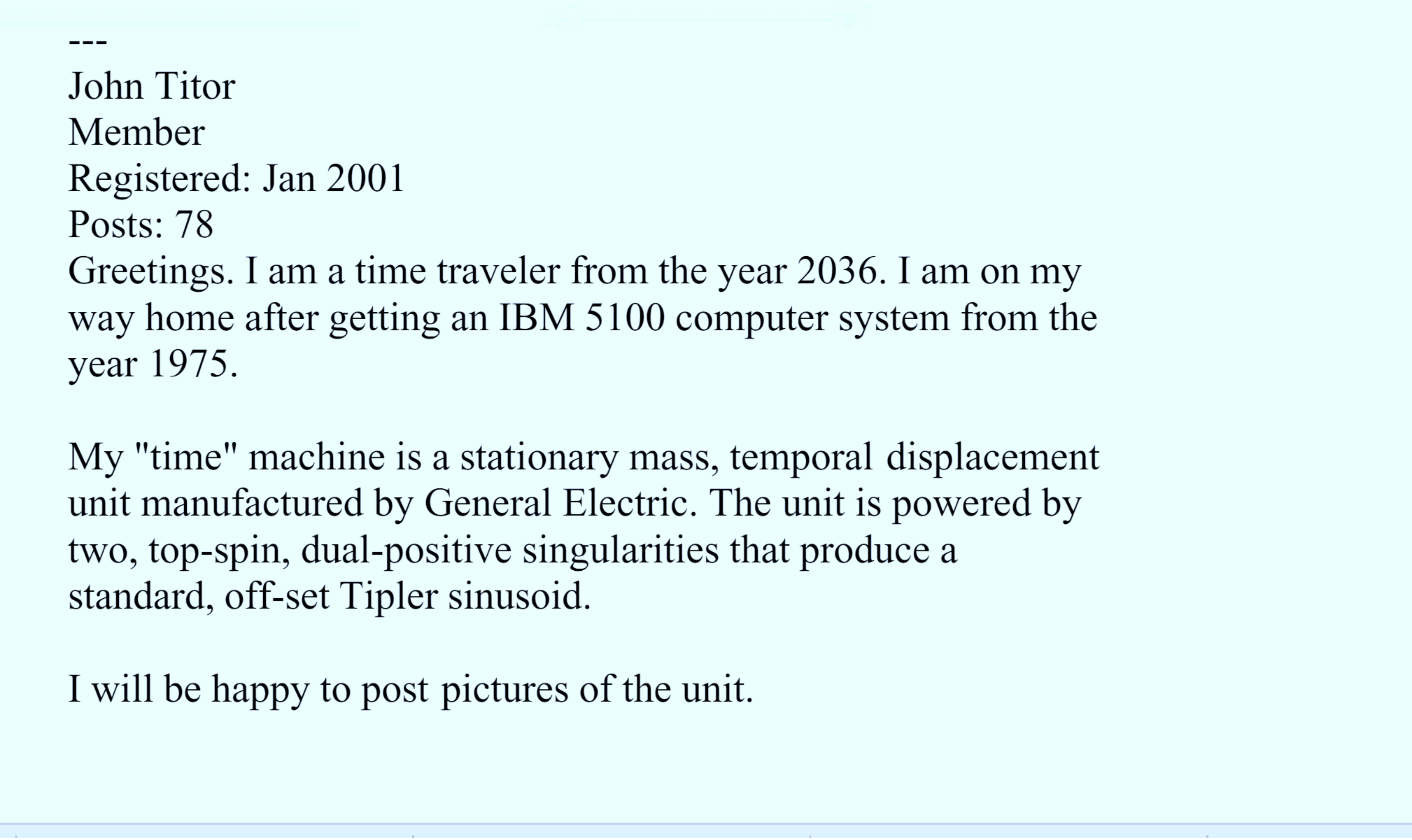

c|net
7:18 / 16:12
Up next

Microsoft shows off HoloLens 2 mixed reality headset at MWC



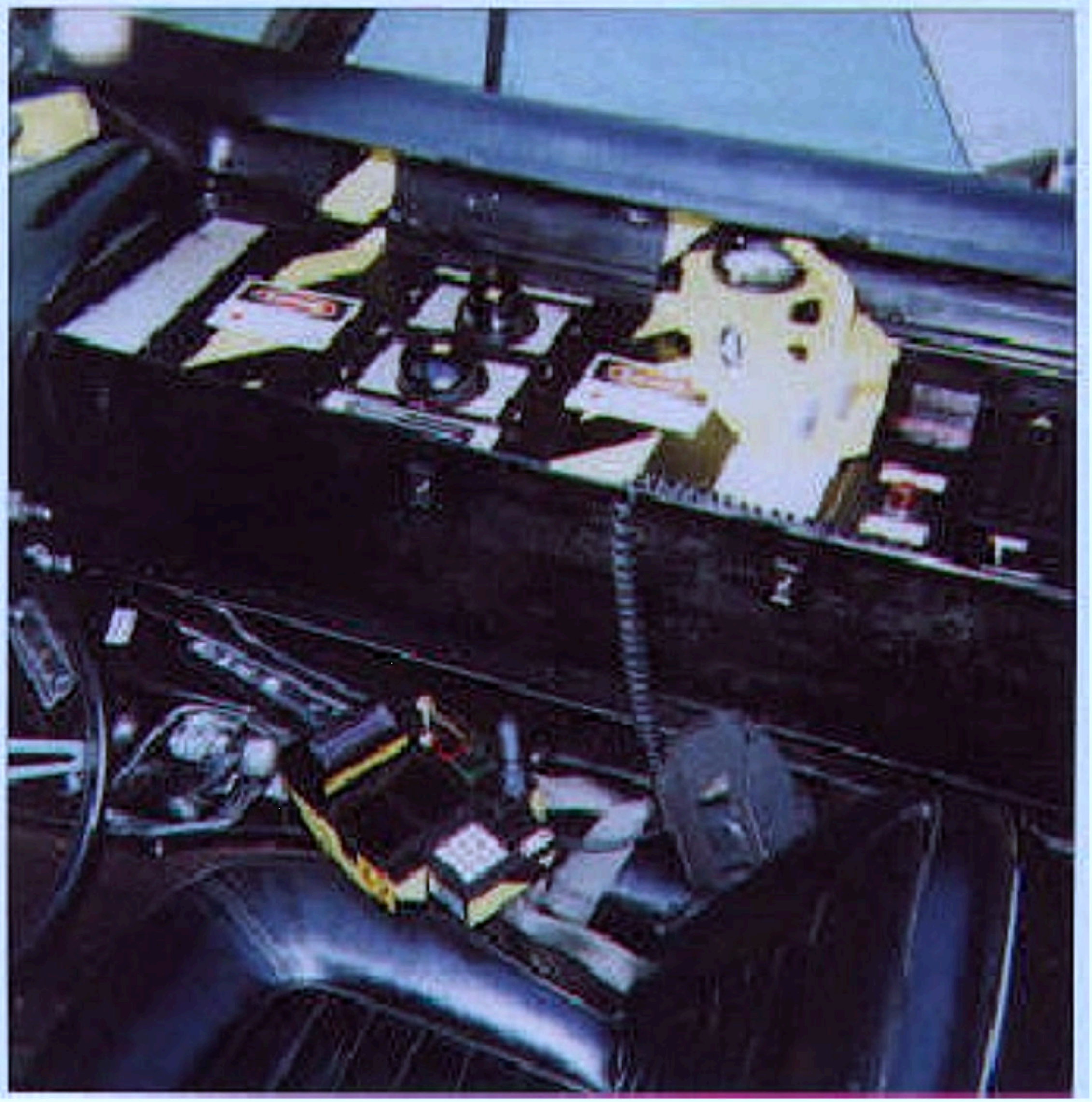
John Titor
Member
Registered: Jan 2001
Posts: 78

Greetings. I am a time traveler from the year 2036. I am on my way home after getting an IBM 5100 computer system from the year 1975.

My "time" machine is a stationary mass, temporal displacement unit manufactured by General Electric. The unit is powered by two, top-spin, dual-positive singularities that produce a standard, off-set Tipler sinusoid.

I will be happy to post pictures of the unit.

Fig. 9: Photo of the unit in the car (Corvette). The device appears to have been moved to the passenger's side. If it weighs 500 pounds as John said, moving it would be some feat.



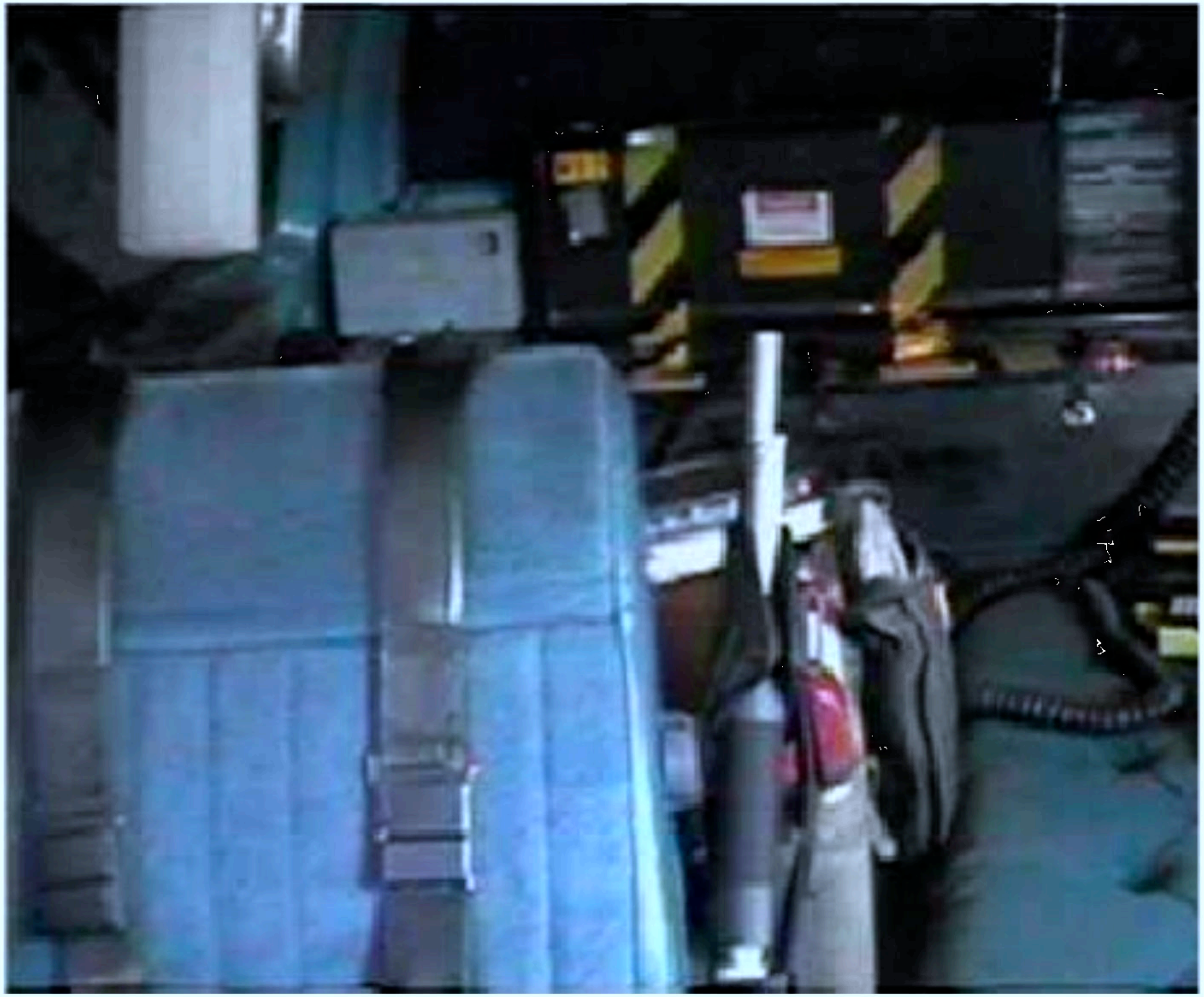


Fig. 12: A second photo of the unit in the truck. Paint colors match, the padded cushion in the foreground appears to be the same as in Fig. 11, and there is the same white box to the left of the unit in both photos.

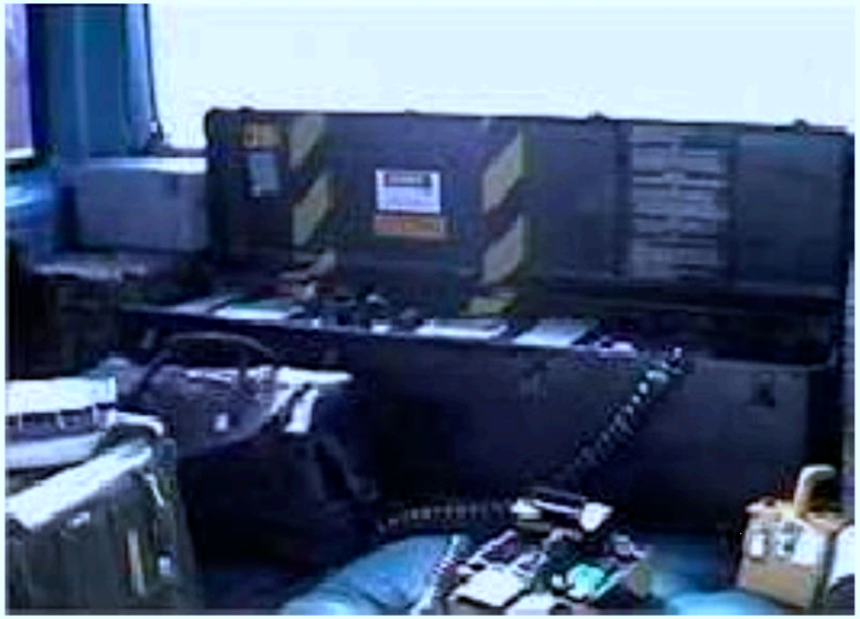
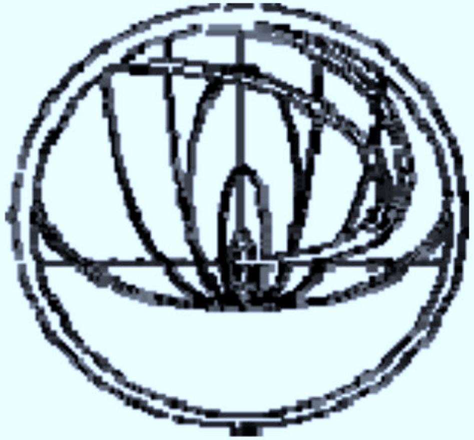


Fig. 13: Third photo of the unit in the truck. The several objects in the foreground appear to have not been moved, but the light is different as if this photo were taken at a different time of day than Fig 12. There is a red glow reflecting off the instruction label which could possibly be an indicator lamp. Could the unit be turned on? Possibly it's in some kind of testing or maintenance mode or maybe it's reflecting light from outside the vehicle. The glow appears to be coming from a button labelled 'emergency disconnect' (#5) in Fig. 6. But it could also be coming from the 'emergency view screen' (#4) shown in Fig. 6 if that is perhaps a red LED display.

Fig. 14: John's unit insignia. Supposedly the design is based on the field patterns of the time distortion device, reminiscent of Figs 3 and 4 above. It's probably unwise to try to infer too much from it since it's just a logo design.



PREDICTIONS:

1. Primary interest and concern surrounds Mr. Titor's prediction of a global nuclear war in 2015 that will destroy most of the major cities in the United States and many around the world, kill a large fraction of the world's population, and leave the environment contaminated with massive amounts of long-lived radionuclides. By 2036 when civilization has begun to regroup, we of today will be known as the generation that had it all, but threw it away.
2. Microsingularities (mini black holes) will be created soon at a particle collider, and physicists will eventually learn how to build time machines using two of them at a time. It is already expected by some physicists that particle energies will be high enough to create microsingularities at CERN's Large Hadron Collider when it begins operation in 2007, but Mr. Titor did not say exactly where and when they would be discovered. The Titor-specific part of this prediction is that microsingularities can and will be used to build time-travel machines.
3. The multiple worlds theory is true, and there

himself here. He mentioned some small divergences he's noticed, such as books not written and sports events won by other teams, which he says is normal for divergence of a few percent, and that some divergence is inevitable (he can never return to the exact same worldline he left in 2036, but he can come very close).

4. Creutzfeldt-Jakob Disease (CJD) will be epidemic by 2036 and it is spread by eating the meat of animals infected with related diseases such as BSE (bovine spongiform encephalopathy, better known as Mad Cow Disease). CJD is a horrible and fatal brain-deteriorating disease for which there is no treatment or cure, presently believed to be caused by a prion (an abnormal isoform of a host-encoded protein, with no RNA or DNA). Mr. Titor expressed astonishment that people are so careless about the food they routinely ingest; apparently CJD has a latent period of 10 to 30 years, which means (if Mr. Titor was not a fraud) that many people are probably unwittingly contracting the disease today who will become victims of the CJD epidemic. We're ignorant meat eaters.

It would seem then that another time traveller that looks like you could arrive on your worldline of origin with another IBM computer and no one would know the difference.

Bingo!! Seems like something they would do a lot of psychological testing for before they sent us off.

Posted by John Titor in the year 2001

One single universe existed before the Big Bang.

This “single quantum state” universe was fully isotropic in its constitution, and it was point like shaped.

Had it existed, for argument sake, a pair of two distinguishable points within it, it would not have been totally isotropic.

After it exploded into a proper universe, an unlimited multiverse matrix was generated.

This starting event is called Big Bang.

Actually, every single possible quantum state universe is happening within a broad multiverse matrix (see image 1).

On universe worldlines, time normally flows from past to future.

Different choices allow people on Earth to move between different worldlines, always in accordance with the “past to future” standard rule.

Time loop travels or shortcuts from present to past or from present to future can also be attained within special conditions.

to explore their galaxy.

Type II civilizations can control all of the energy output from their suns using Dyson spheres. They are exploring other galaxies.

Type III civilizations can control the energy of a galaxy. They can extract the energy from stars and black holes. They are capable of manipulating Planck energy. This is the energy that exists at the center of black holes, where space-time is unstable. Controlling Planck energy could result in the control of worm holes leading to instantaneous travel across the universe. It is unknown what limits this type of civilization would have, they may have access to inter-dimensional travel. They may even be able to time travel.

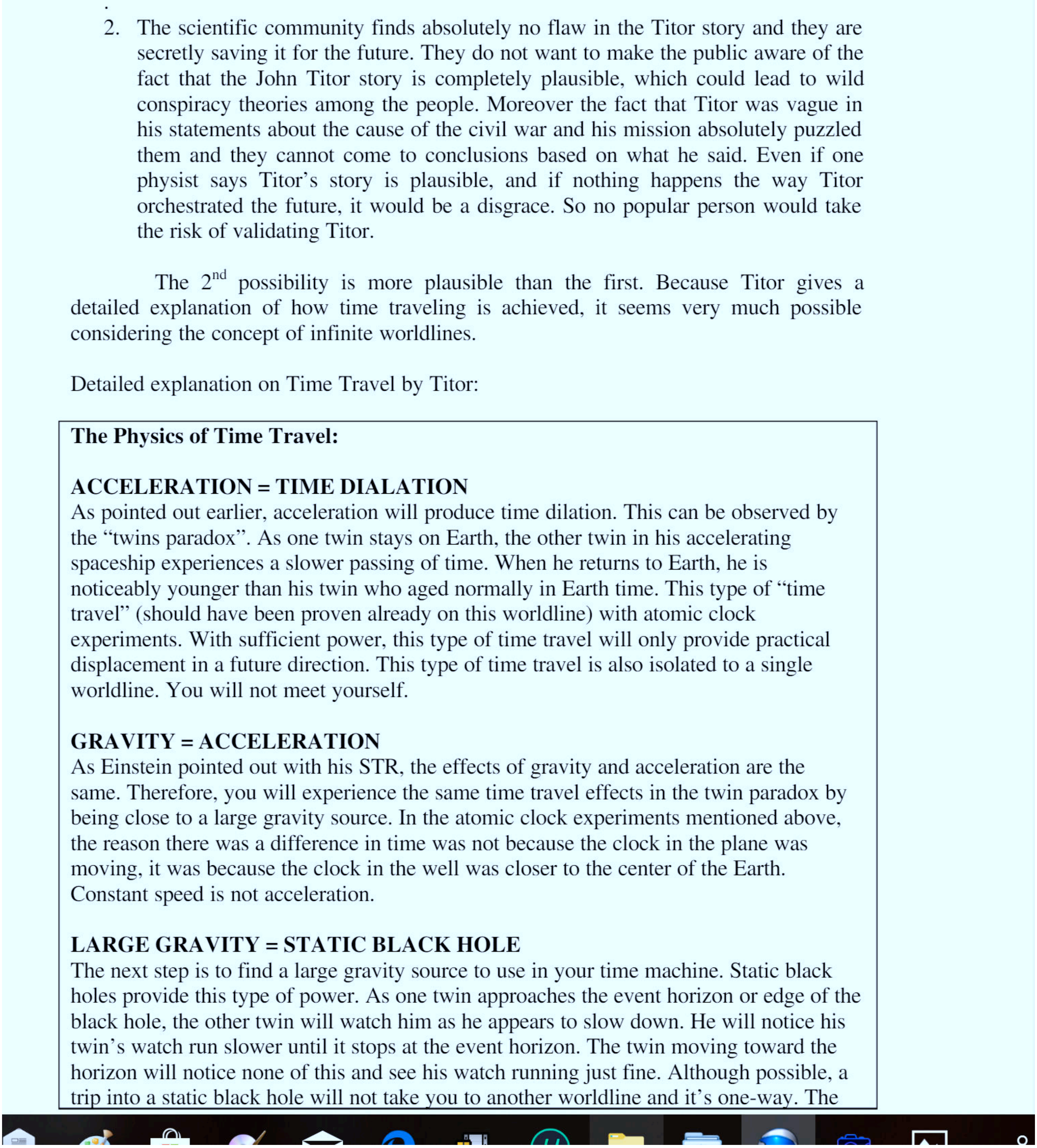
The flawed science in the Titor story is the reason the scientific community have never taken it seriously. As Michio Kaku said at this point CERN has not been successful in creating any black holes despite their efforts. According to Michio Kaku even if mini black holes were created they would not be capable of manipulating time let alone be the core of a time travel device.

Michio Kaku wrote:

I think the person you mentioned is a fake. Mini black holes do not have the power to bend time, and CERN certainly has not produced any. The LHC will be turned on in 2 years, and there is a small chance it might create a mini black hole, but these are sub-atomic in size and energy. Time travel may be possible, but not for a Type 0 civilization. Type III civilizations, however, may have access to the Planck energy, where this possibility opens up.

Dr. Kaku says Mini black holes do not have the power to bend time. Titor says manipulating gravity made time travel possible. The microsingularity is used to create a field that manipulates gravity to travel through time. Today, the power of the micro singularity is still unknown. Once CERN smashes very fast and high energy particles together, it will be found that one of the dangerous items produced are microsingularities, according to Titor. These microsingularities are a fraction of the size of the electron. With these microsingularities, it is discovered through trial and error method that they are capable of manipulating gravity to travel through time. Though this may seem vague, clearly it cannot be deemed impossible. No one can debunk Titor on this basis of something which is yet to be discovered. But Kaku accepts the fact that time travel may be possible, but he makes confusing statements about civilizations. This is clearly irrelevant because he himself says LHC goes online in two years. That is where the basis of Time Travel begins.

Then what could be the reason the scientific community never took it seriously? There could be two possibilities:



.

2. The scientific community finds absolutely no flaw in the Titor story and they are secretly saving it for the future. They do not want to make the public aware of the fact that the John Titor story is completely plausible, which could lead to wild conspiracy theories among the people. Moreover the fact that Titor was vague in his statements about the cause of the civil war and his mission absolutely puzzled them and they cannot come to conclusions based on what he said. Even if one physist says Titor's story is plausible, and if nothing happens the way Titor orchestrated the future, it would be a disgrace. So no popular person would take the risk of validating Titor.

The 2^{nd} possibility is more plausible than the first. Because Titor gives a detailed explanation of how time traveling is achieved, it seems very much possible considering the concept of infinite worldlines.

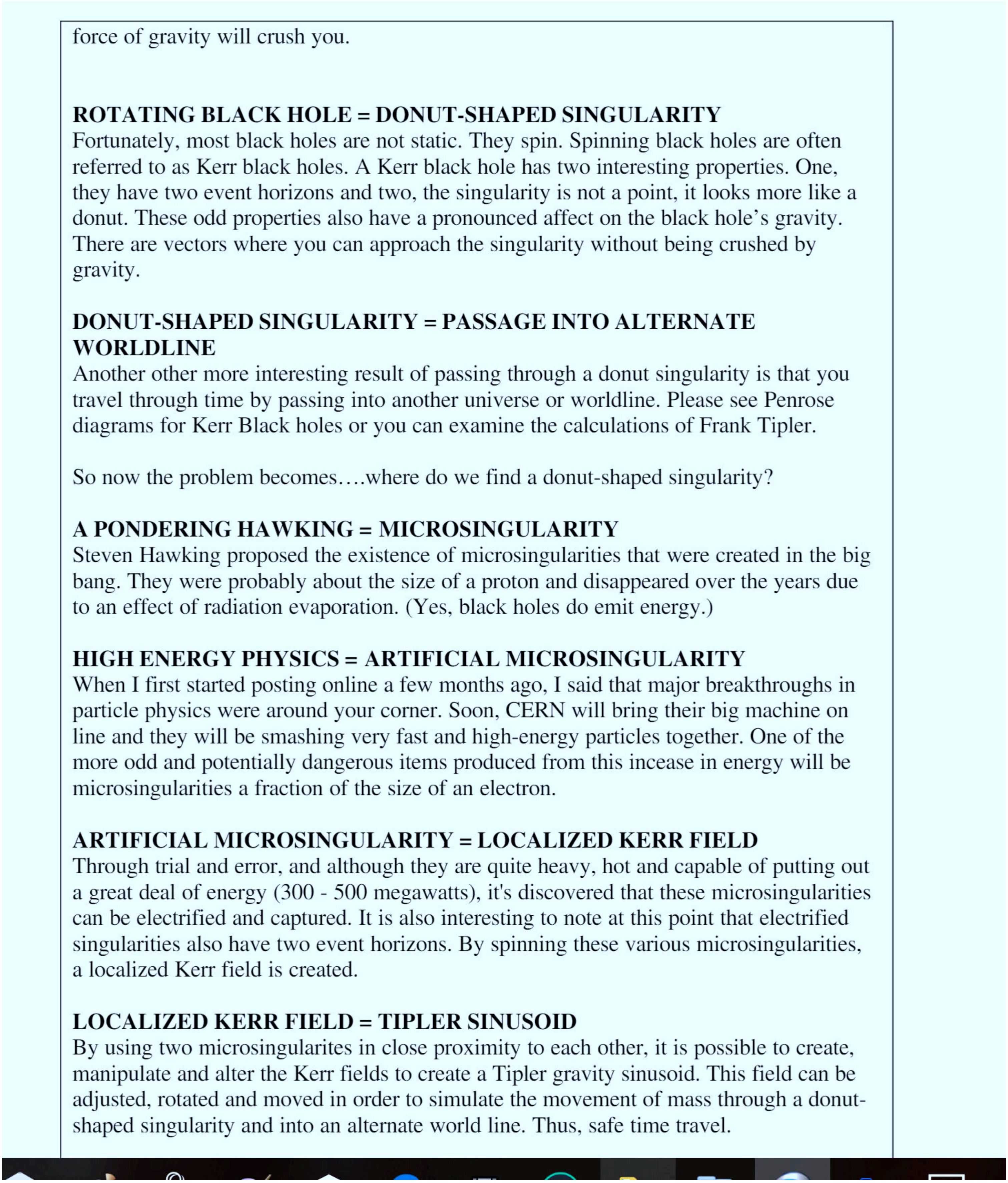
Detailed explanation on Time Travel by Titor:

The Physics of Time Travel:

ACCELERATION = TIME DIALATION
As pointed out earlier, acceleration will produce time dilation. This can be observed by the "twins paradox". As one twin stays on Earth, the other twin in his accelerating spaceship experiences a slower passing of time. When he returns to Earth, he is noticeably younger than his twin who aged normally in Earth time. This type of "time travel" (should have been proven already on this worldline) with atomic clock experiments. With sufficient power, this type of time travel will only provide practical displacement in a future direction. This type of time travel is also isolated to a single worldline. You will not meet yourself.

GRAVITY = ACCELERATION
As Einstein pointed out with his STR, the effects of gravity and acceleration are the same. Therefore, you will experience the same time travel effects in the twin paradox by being close to a large gravity source. In the atomic clock experiments mentioned above, the reason there was a difference in time was not because the clock in the plane was moving, it was because the clock in the well was closer to the center of the Earth. Constant speed is not acceleration.

LARGE GRAVITY = STATIC BLACK HOLE
The next step is to find a large gravity source to use in your time machine. Static black holes provide this type of power. As one twin approaches the event horizon or edge of the black hole, the other twin will watch him as he appears to slow down. He will notice his twin's watch run slower until it stops at the event horizon. The twin moving toward the horizon will notice none of this and see his watch running just fine. Although possible, a trip into a static black hole will not take you to another worldline and it's one-way. The



force of gravity will crush you.

ROTATING BLACK HOLE = DONUT-SHAPED SINGULARITY
Fortunately, most black holes are not static. They spin. Spinning black holes are often referred to as Kerr black holes. A Kerr black hole has two interesting properties. One, they have two event horizons and two, the singularity is not a point, it looks more like a donut. These odd properties also have a pronounced affect on the black hole's gravity. There are vectors where you can approach the singularity without being crushed by gravity.

DONUT-SHAPED SINGULARITY = PASSAGE INTO ALTERNATE WORLDLINE
Another other more interesting result of passing through a donut singularity is that you travel through time by passing into another universe or worldline. Please see Penrose diagrams for Kerr Black holes or you can examine the calculations of Frank Tipler.

So now the problem becomes….where do we find a donut-shaped singularity?

A PONDERING HAWKING = MICROSINGULARITY
Steven Hawking proposed the existence of microsingularities that were created in the big bang. They were probably about the size of a proton and disappeared over the years due to an effect of radiation evaporation. (Yes, black holes do emit energy.)

HIGH ENERGY PHYSICS = ARTIFICIAL MICROSINGULARITY
When I first started posting online a few months ago, I said that major breakthroughs in particle physics were around your corner. Soon, CERN will bring their big machine on line and they will be smashing very fast and high-energy particles together. One of the more odd and potentially dangerous items produced from this incease in energy will be microsingularities a fraction of the size of an electron.

ARTIFICIAL MICROSINGULARITY = LOCALIZED KERR FIELD
Through trial and error, and although they are quite heavy, hot and capable of putting out a great deal of energy (300 - 500 megawatts), it's discovered that these microsingularities can be electrified and captured. It is also interesting to note at this point that electrified singularities also have two event horizons. By spinning these various microsingularities, a localized Kerr field is created.

LOCALIZED KERR FIELD = TIPLER SINUSOID
By using two microsingularites in close proximity to each other, it is possible to create, manipulate and alter the Kerr fields to create a Tipler gravity sinusoid. This field can be adjusted, rotated and moved in order to simulate the movement of mass through a donut-shaped singularity and into an alternate world line. Thus, safe time travel.

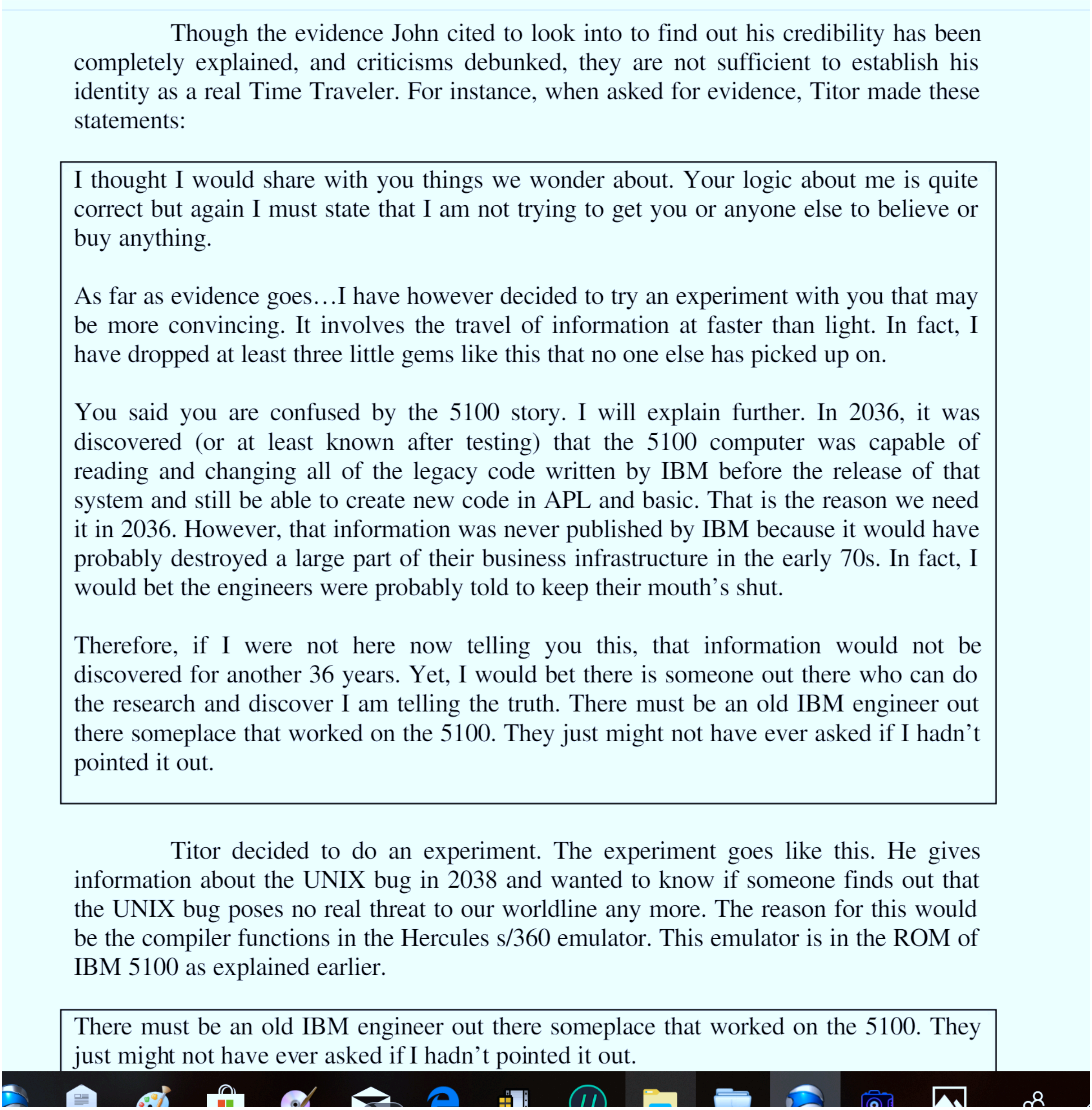
That is clear explanation which is certainly possible to achieve time travel in the near future. This cannot be considered completely impossible, whatever be the debunking.

Article from BBC news:

> The Large Hadron Collider (LHC) is a powerful and impossibly complicated machine that will smash particles together at super-fast speeds in a bid to unlock the secrets of the Universe.
>
> By recreating the searing-hot conditions fractions of a second after the Big Bang, scientists hope to see new physics, discover the sought-after "God particle", uncover new dimensions and even generate mini-black holes.
>
> When completed, two parallel tubes will carry high-energy particles called protons in opposite directions around the tunnel at close to the speed of light.
>
> The tunnel's huge circumference provides only the slightest of bends. Nevertheless, around 5,000 superconducting magnets are needed to steer and focus the particles around the tubes.

Titor claims microsingularities are produced as a result of the LHC experiments. The secrets of the universe would be unveiled with the LHC going online in 2007.

Now with all the criticisms on the Titor story has been debunked completely, let us analyze the credibility of John Titor.



Though the evidence John cited to look into to find out his credibility has been completely explained, and criticisms debunked, they are not sufficient to establish his identity as a real Time Traveler. For instance, when asked for evidence, Titor made these statements:

> I thought I would share with you things we wonder about. Your logic about me is quite correct but again I must state that I am not trying to get you or anyone else to believe or buy anything.
>
> As far as evidence goes…I have however decided to try an experiment with you that may be more convincing. It involves the travel of information at faster than light. In fact, I have dropped at least three little gems like this that no one else has picked up on.
>
> You said you are confused by the 5100 story. I will explain further. In 2036, it was discovered (or at least known after testing) that the 5100 computer was capable of reading and changing all of the legacy code written by IBM before the release of that system and still be able to create new code in APL and basic. That is the reason we need it in 2036. However, that information was never published by IBM because it would have probably destroyed a large part of their business infrastructure in the early 70s. In fact, I would bet the engineers were probably told to keep their mouth's shut.
>
> Therefore, if I were not here now telling you this, that information would not be discovered for another 36 years. Yet, I would bet there is someone out there who can do the research and discover I am telling the truth. There must be an old IBM engineer out there someplace that worked on the 5100. They just might not have ever asked if I hadn't pointed it out.

Titor decided to do an experiment. The experiment goes like this. He gives information about the UNIX bug in 2038 and wanted to know if someone finds out that the UNIX bug poses no real threat to our worldline any more. The reason for this would be the compiler functions in the Hercules s/360 emulator. This emulator is in the ROM of IBM 5100 as explained earlier.

> There must be an old IBM engineer out there someplace that worked on the 5100. They just might not have ever asked if I hadn't pointed it out.

Time Control Technologies and Methods

updated 23 Oct 2009

Key Characteristics

Technologies and Methods	Time Control		Matter Transport	Tech. Viability	Possible without Exotic Materials	Relatively Low Input Power
	Future	Past				
Quantum Tunneling	●	○	○	●	●	●
Near-Lightspeed Travel	●	○	●	●	●	○
Alcubierre Warp Drive	●	○	●	●	●	●
Faster-than-Light Travel	●	●	●	○	○	○
Time-warped Fields	●	●	●	●	●	●
Circulating Light Beams	●	●	●	●	●	●
Wormholes	●	●	●	○	●	●
Cosmic Strings	●	●	●	○	●	●
Tipler Cylinder	○	●	●	●	○	●
Casimir Effect	○	●	●	●	●	●

Do NOT support subluminal speed transport to the past

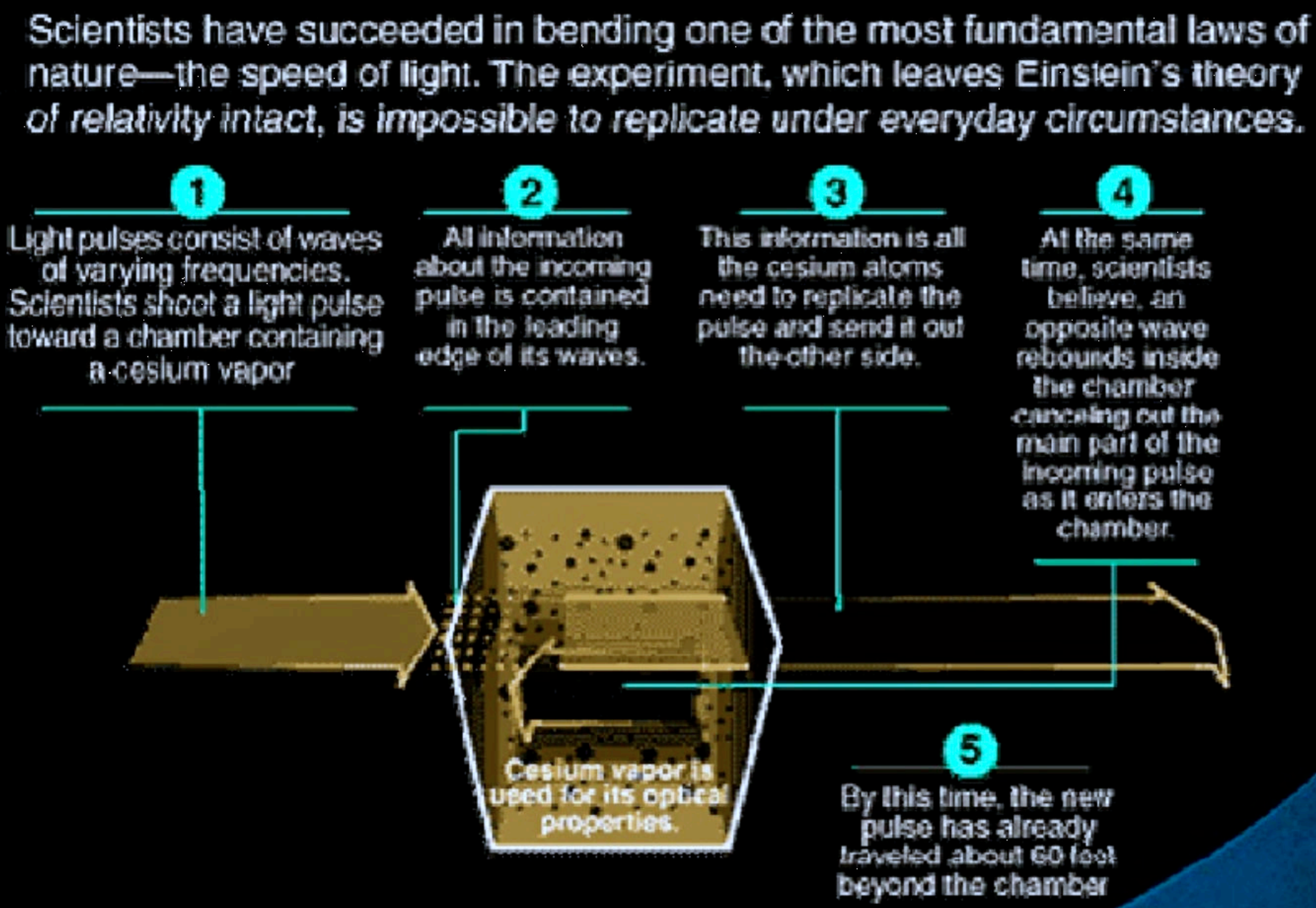
Generate special spacetime geometries permitting subluminal speed travel to the past

Notes: A solid circle indicates a key characteristic is supported by the indicated technology or method, an empty circle indicates it is not. Time Control indicates whether travel to future, past, or both are possible. Matter Transport is solid if both matter and information can be transported, empty if only information can be transported. Tech Viability is solid if the technology or method is viable with present state-of-the-art technology or within two generations. Possible Without Exotic Materials is solid if materials required are available today or within two generations. Relatively Low Input Power is solid if time control is achievable within power generation capabilities available today or within two generations.

Quantum Tunneling

Quantum Tunneling: is an evanescent wave coupling effect that occurs in quantum mechanics.

The correct wavelength combined with the proper tunneling barrier makes it possible to pass signals faster than light, backwards in time.



Scientists have succeeded in bending one of the most fundamental laws of nature—the speed of light. The experiment, which leaves Einstein's theory *of relativity intact, is impossible to replicate under everyday circumstances.*

① Light pulses consist of waves of varying frequencies. Scientists shoot a light pulse toward a chamber containing a cesium vapor

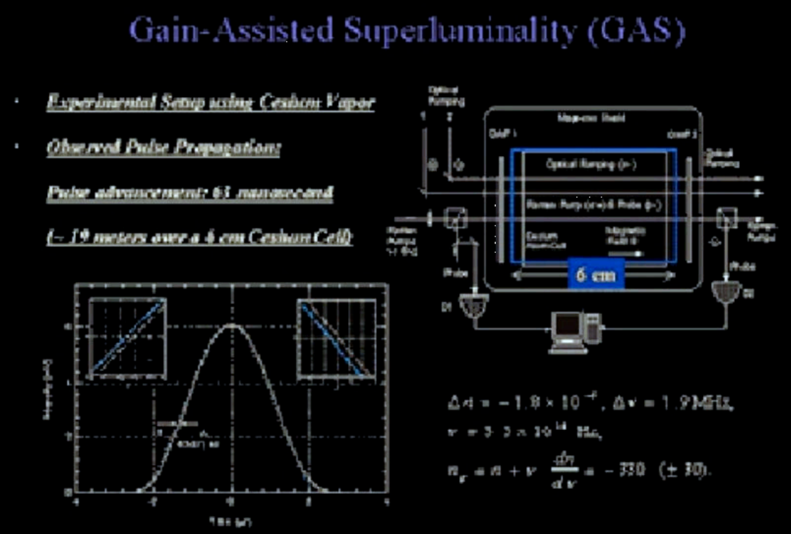
② All information about the incoming pulse is contained in the leading edge of its waves.

③ This information is all the cesium atoms need to replicate the pulse and send it out the other side.

④ At the same time, scientists believe, an opposite wave rebounds inside the chamber canceling out the main part of the incoming pulse as it enters the chamber.

⑤ By this time, the new pulse has already traveled about 60 feet beyond the chamber

Quantum Tunneling



Gain-Assisted Superluminality (GAS)

- *Experimental Setup using Cesium Vapor*
- *Observed Pulse Propagation:*

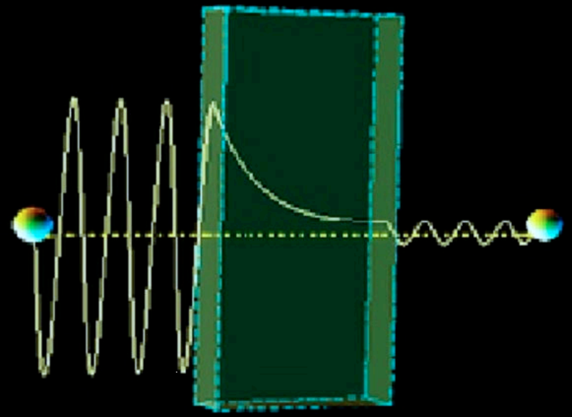
Pulse advancement: 63 nanosecond

(~ 19 meters over a 6 cm Cesium Cell)

$\Delta n = -1.8 \times 10^{-6}$, $\Delta \nu = 1.9$ MHz,

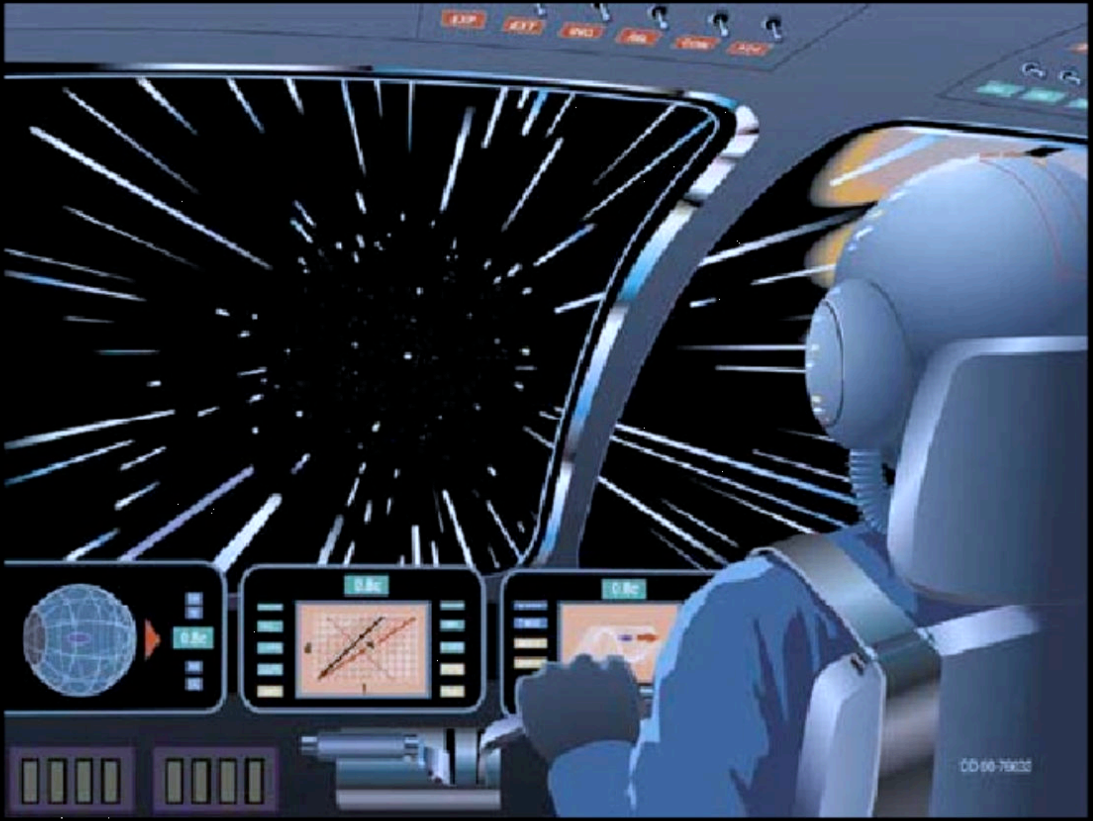
$\nu = 3.5 \times 10^{14}$ Hz,

$n_g = n + \nu \frac{dn}{d\nu} = -330\ (\pm 30)$.

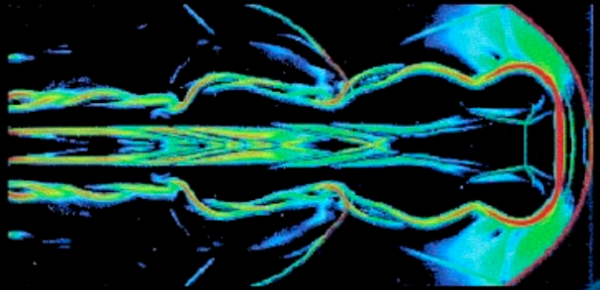


- Effect: QUANTUM
- Speed: SUBLUMINAL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✗ Time Travel to Past: NO
- ✗ Matter Transport: NO
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES

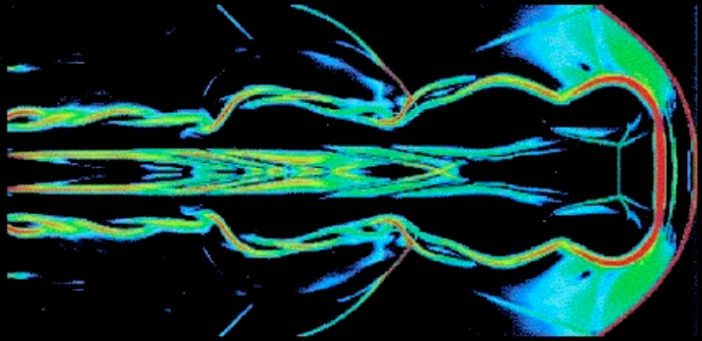
Near-Lightspeed Travel



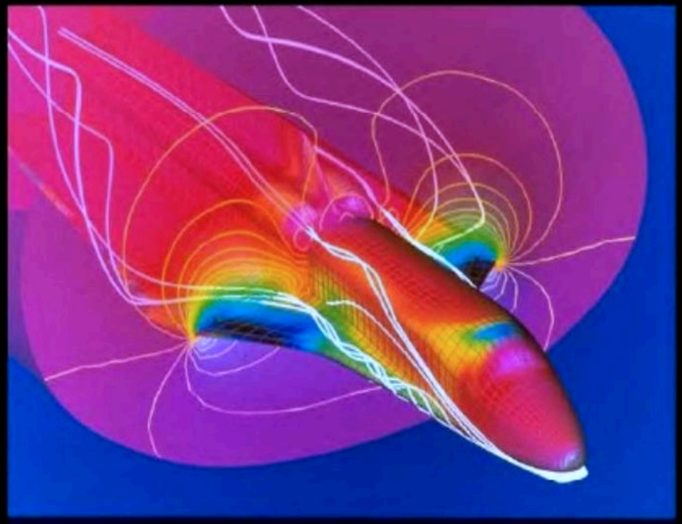
Near-Lightspeed Travel: has the ability to significantly dilate time, sending an accelerating traveler rapidly forward in time relative to those left behind before her travel. The closer to the speed of light, the further into the future the travel.



Near-Lightspeed Travel



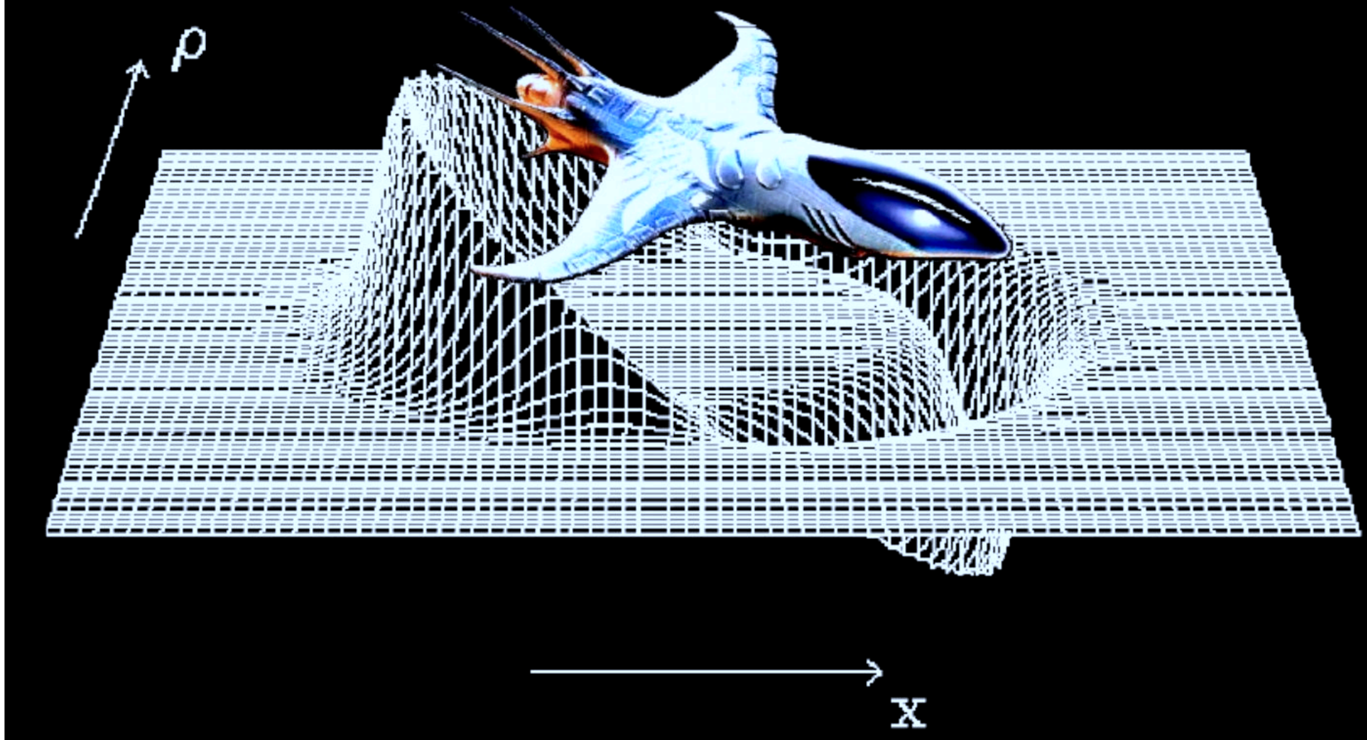
Computer simulation of a jet of photons and electrons traveling at 98 percent of light speed ramming and mixing with interstellar material



- Effect: SPECIAL RELATIVISTIC
- Speed: NEAR/FTL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✗ Time Travel to Past: NO
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✗ Low Input Power: NO

Alcubierre Warp Drive

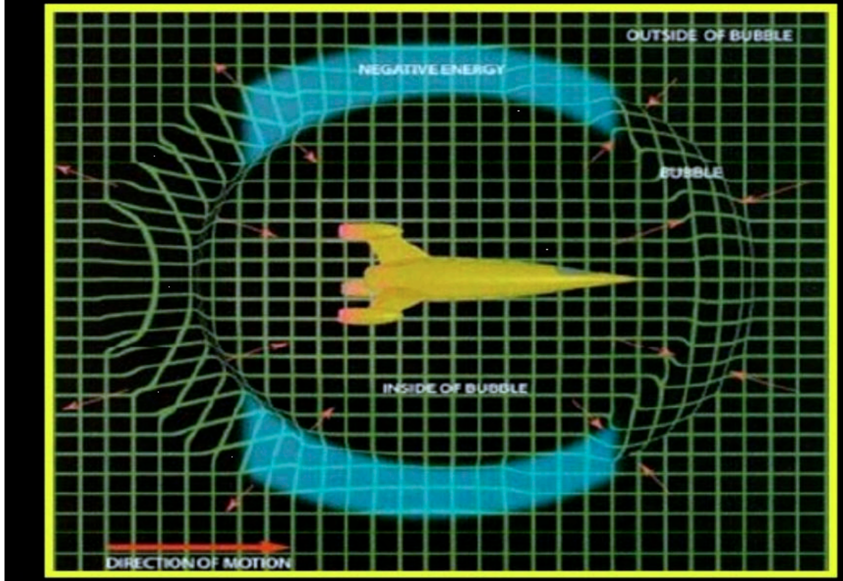
$$\vartheta = -\alpha \, \mathrm{Tr}(K)$$

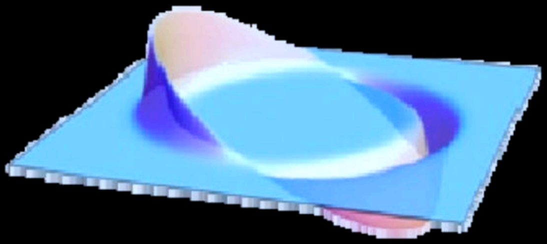


Alcubierre Warp Drive: stretches spacetime in a wave causing the fabric of space ahead of a spacecraft to contract and the space behind it to expand.

The ship can ride the wave to accelerate to high speeds and time travel.

Alcubierre Warp Drive


OUTSIDE OF BUBBLE
NEGATIVE ENERGY
BUBBLE
INSIDE OF BUBBLE
DIRECTION OF MOTION



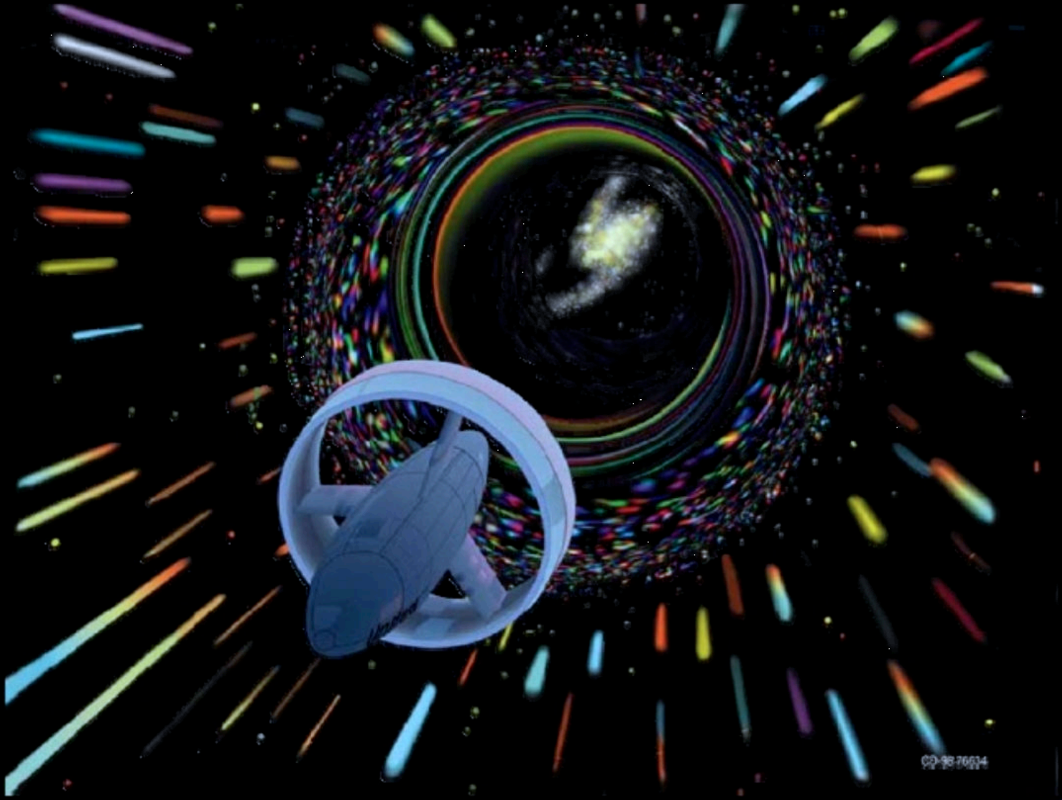
- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✗ Time Travel to Past: NO
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES

Faster-than-Light Travel

Faster-than-Light Travel: is a controversial subject.

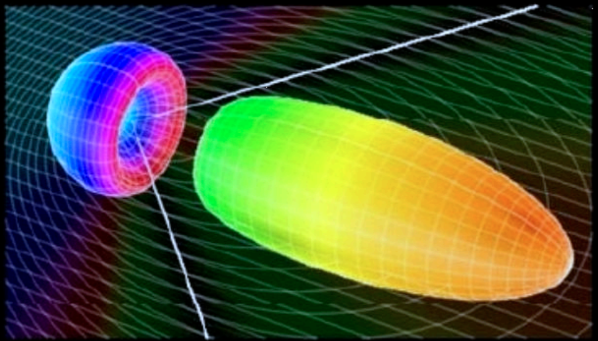
According to special relativity anything that could travel faster-than-light would move backward in time.

As the same time, special relativity states that this would require infinite energy.



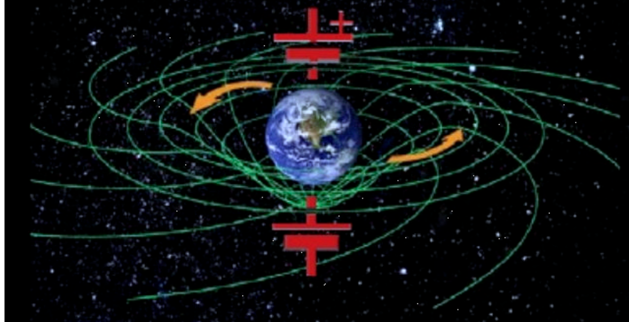
Faster-than-Light Travel

Computer simulation of a tachyon, a theoretical particle believed to travel faster than light.

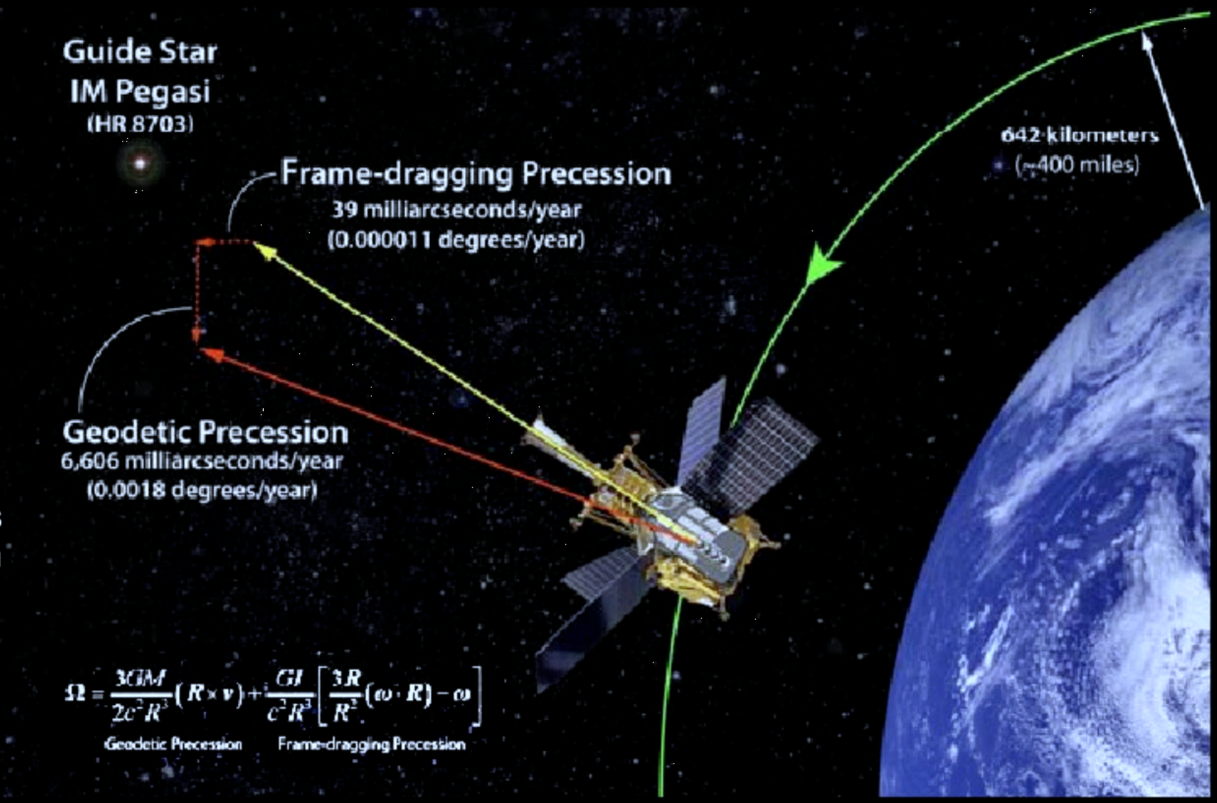


- Effect: SPECIAL RELATIVISTIC
- Speed: NEAR/FTL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✗ Technically Viable: NO
- ✗ Possible w/o Exotic Materials: NO
- ✗ Low Input Power: NO

Time-warped Fields (TwF)



Time-warped Field Technology accesses the potential energy differences between two areas of twisted spacetime created by inertial frame-dragging.

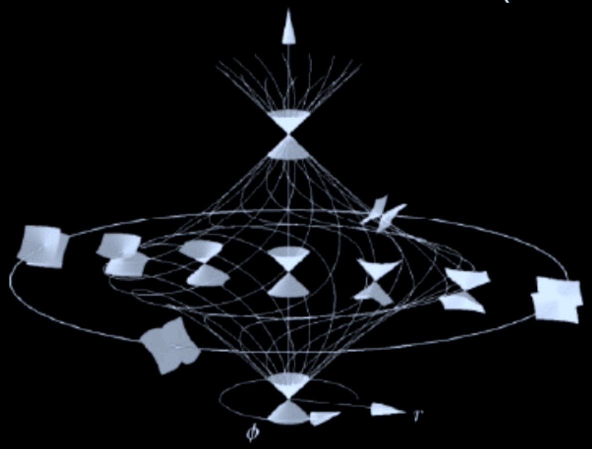

Guide Star
IM Pegasi
(HR 8703)
Frame-dragging Precession
39 milliarcseconds/year
(0.000011 degrees/year)
642 kilometers
(~400 miles)
Geodetic Precession
6,606 milliarcseconds/year
(0.0018 degrees/year)
Geodetic Precession
Frame-dragging Precession

$$\Omega = \underbrace{\frac{3GM}{2c^2R^3}(R \times v)}_{\text{Geodetic Precession}} + \underbrace{\frac{GI}{c^2R^3}\left[\frac{3R}{R^2}(\omega \cdot R) - \omega\right]}_{\text{Frame-dragging Precession}}$$

Time-warped Fields: use energy within curvatures of spacetime around a rotating mass or energy field to generate containable and controllable fields of closed-timelike curves that can move matter and information forward or backward in time.

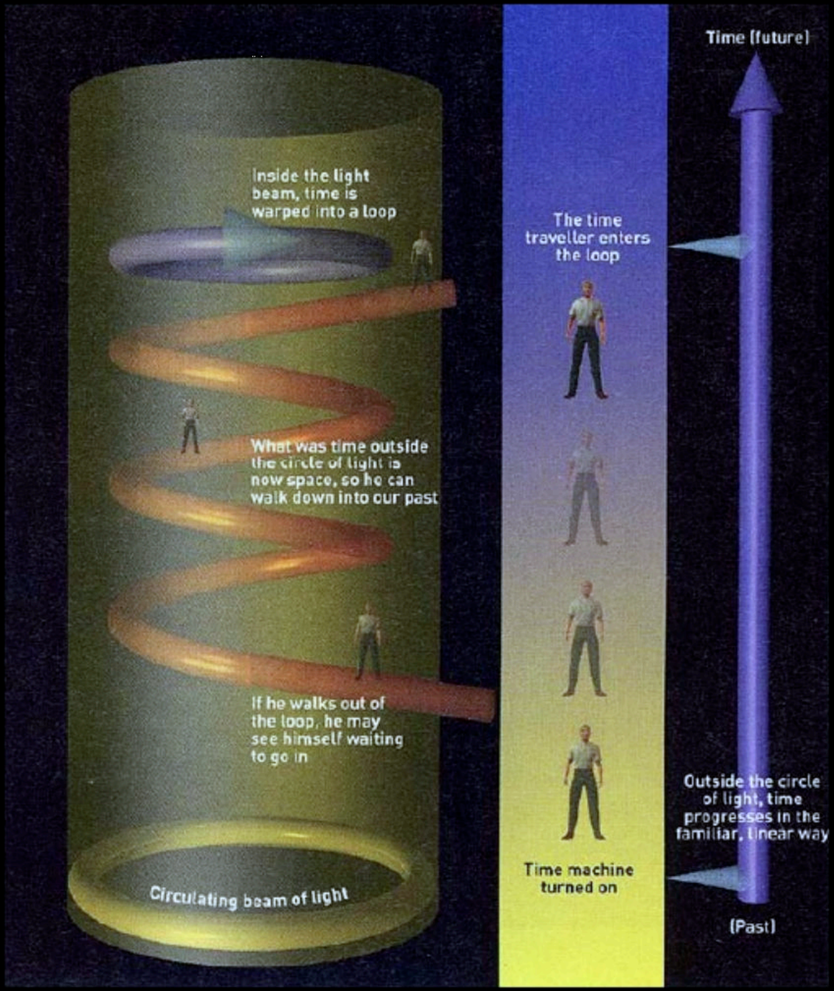
Time-warped Fields (TwF)

Energy pattern in coupling between two different regions in spacetime (above). Illustration of generated field of closed-timelike curves at the base of a time reactor (below).



- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES

Circulating Light Beams


Time (future)
Inside the light beam, time is warped into a loop
The time traveller enters the loop
What was time outside the circle of light is now space, so he can walk down into our past
If he walks out of the loop, he may see himself waiting to go in
Outside the circle of light, time progresses in the familiar, linear way
Time machine turned on
Circulating beam of light
(Past)

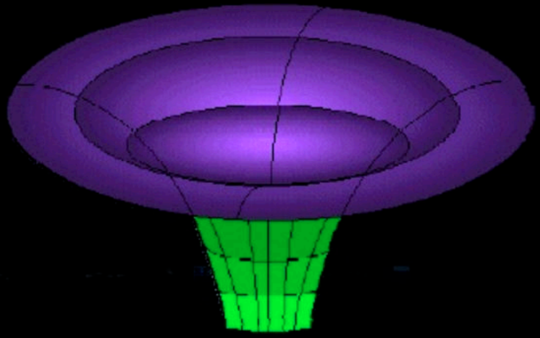
Gamma/Magnetic Fields: can be used to create circulating light beams to warp or loop time.

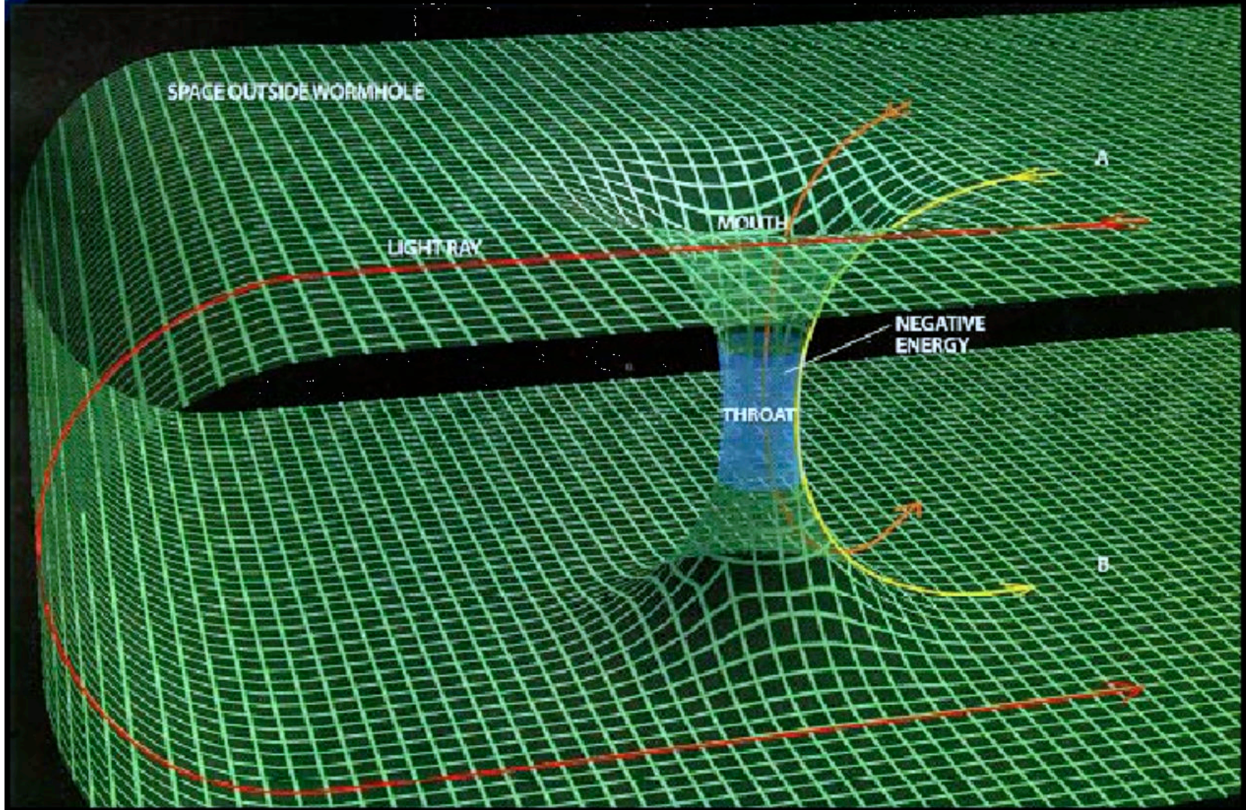
The approach can twist space that also causes time to be twisted, meaning you could theoretically walk through time as you walk through space.

Circulating Light Beams

- Effect: SPECIAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: NO
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES

Wormholes

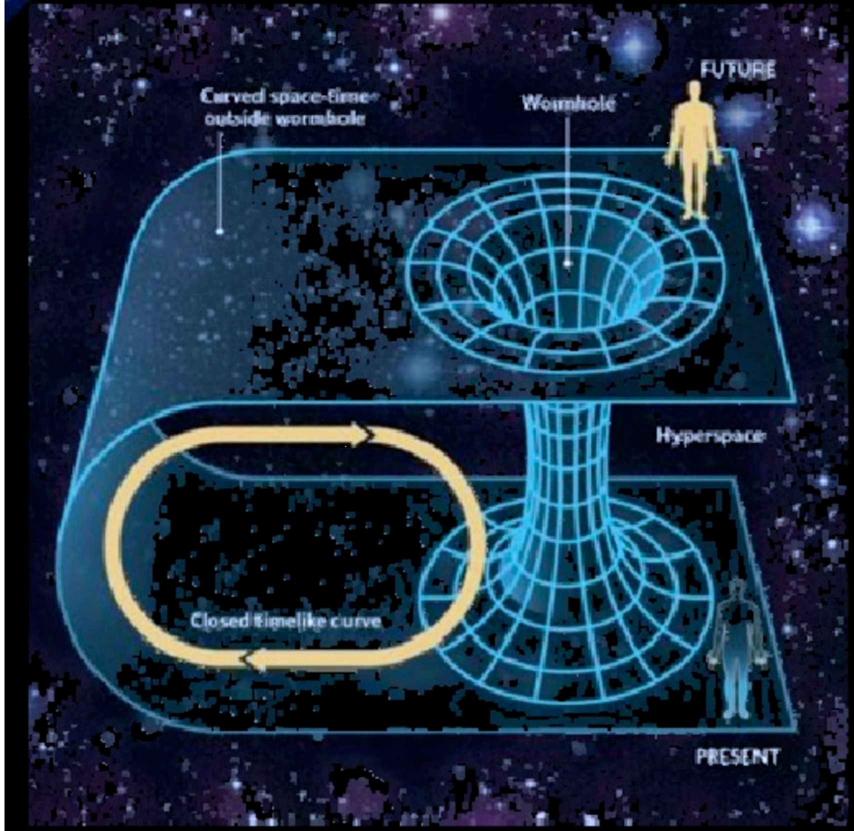



SPACE OUTSIDE WORMHOLE
A
MOUTH
LIGHT RAY
NEGATIVE ENERGY
THROAT
B

Wormholes: are hypothetical areas of warped spacetime with great energy that can create tunnels through spacetime.

If traversable would allow a traveler to quickly move through great distances in space and also travel through time.

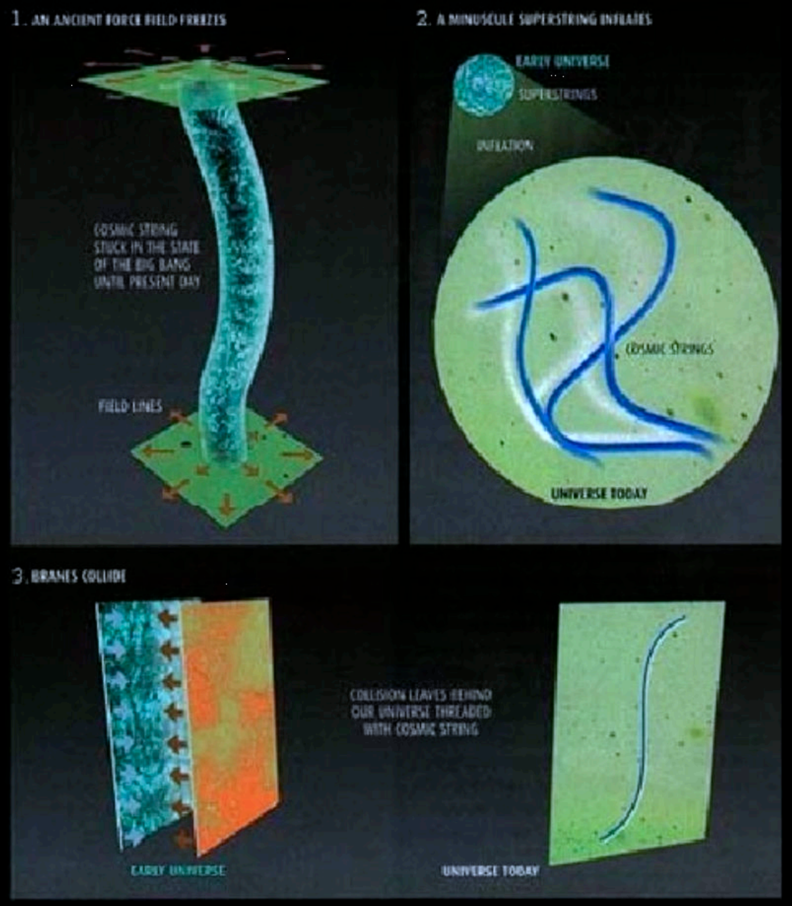
Wormholes


FUTURE
Curved space-time outside wormhole
Wormhole
Hyperspace
Closed timelike curve
PRESENT

- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✗ Technically Viable: NO
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES

Cosmic Strings

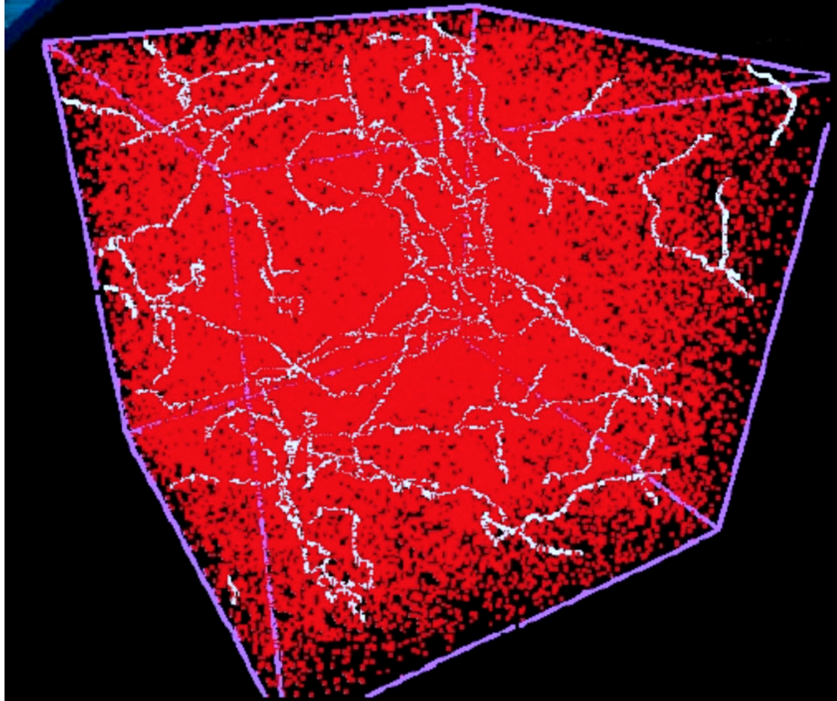
Cosmic strings are predicted to have formed when ancient force fields where frozen in the fabric of spacetime, by inflation of superstrings, or by collision.


1. AN ANCIENT FORCE FIELD FREEZES
COSMIC STRING STUCK IN THE STATE OF THE BIG BANG UNTIL PRESENT DAY
FIELD LINES
2. A MINUSCULE SUPERSTRING INFLATES
EARLY UNIVERSE
SUPERSTRINGS
INFLATION
COSMIC STRINGS
UNIVERSE TODAY
3. BRANES COLLIDE
COLLISION LEAVES BEHIND OUR UNIVERSE THREADED WITH COSMIC STRING
EARLY UNIVERSE
UNIVERSE TODAY

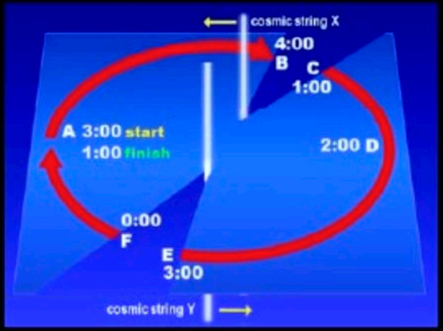
Cosmic Strings: are a hypothetical 1-dimensional (spatially) topological defect in the fabric of spacetime left over from the formation of the universe.

Interaction could create fields of closed timelike curves permitting backwards time travel.

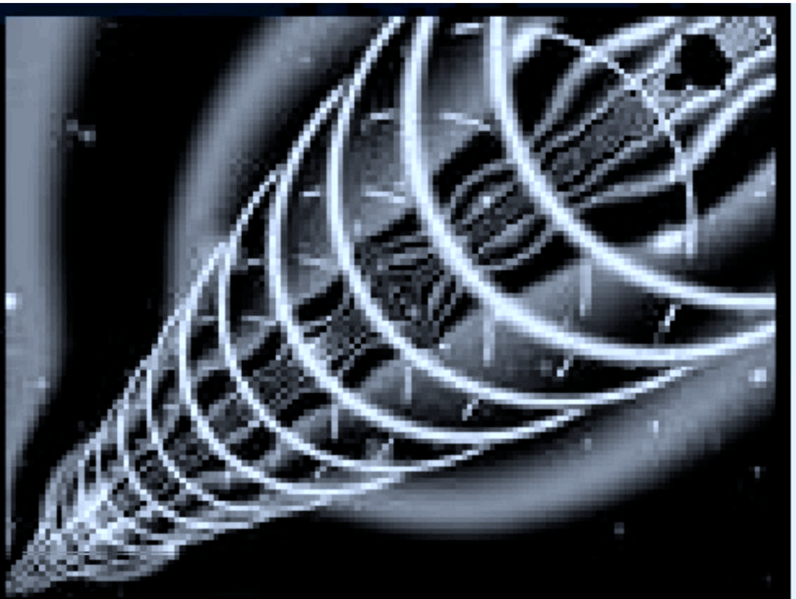
Cosmic Strings



- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✓ Time Travel to Future: YES
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✗ Technically Viable: NO
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES


cosmic string X
4:00
B
C
1:00
A 3:00 start
1:00 finish
2:00 D
0:00
F
E
3:00
cosmic string Y

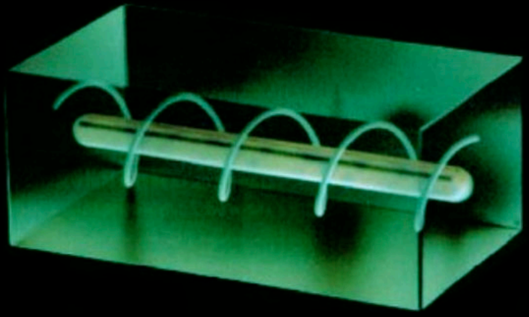
Tipler Cylinder



Tipler Cylinder: uses a massive and long cylinder spinning around its longitudinal axis.

The rotation creates a frame-dragging effect and fields of closed timelike curves traversable in a way to achieve subluminal time travel to the past.

Tipler Cylinder

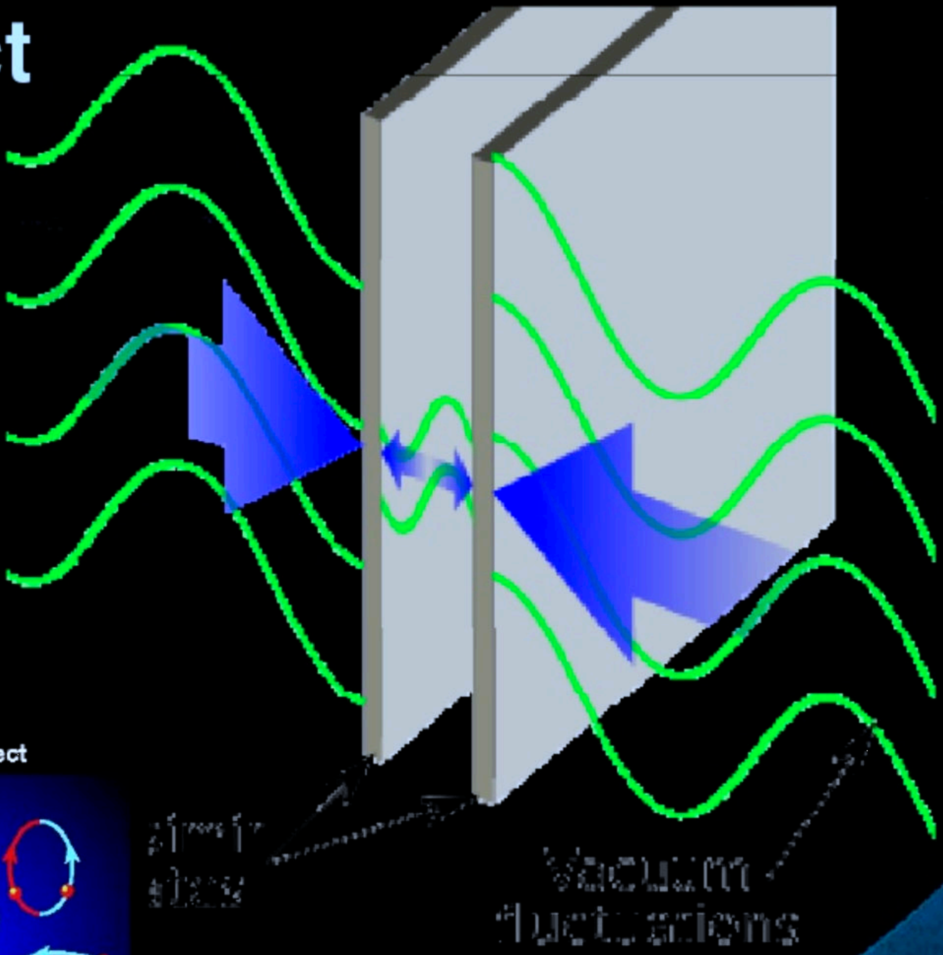


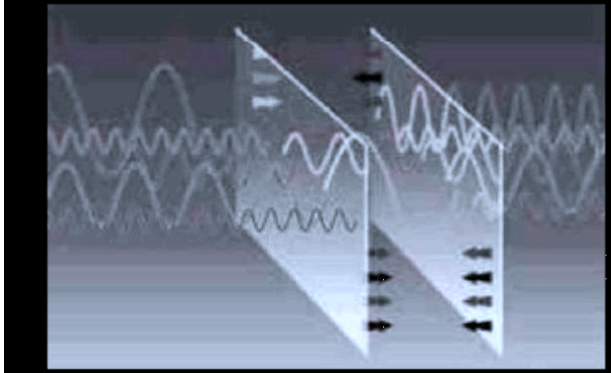
- Effect: GENERAL RELATIVISTIC
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✗ Time Travel to Future: NO
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✗ Possible w/o Exotic Materials: NO
- ✓ Low Input Power: YES

Casimir Effect

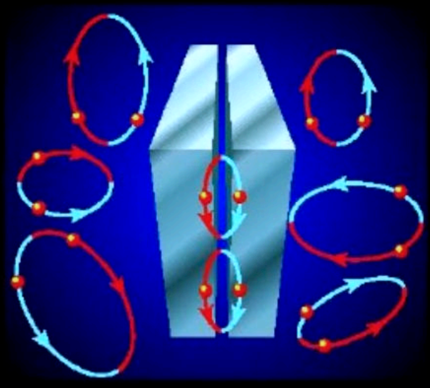
Casimer Effect: a physical force arising from a quantized field, for example between two uncharged plates.

This can produce a locally mass-negative region of space-time that could stabilize a wormhole to allow faster than light travel.



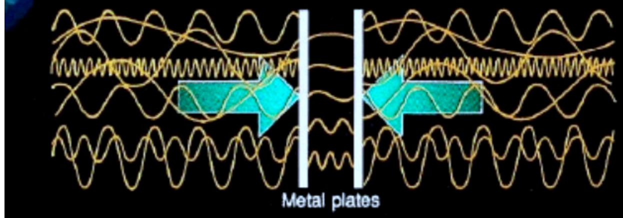


The Casimir effect

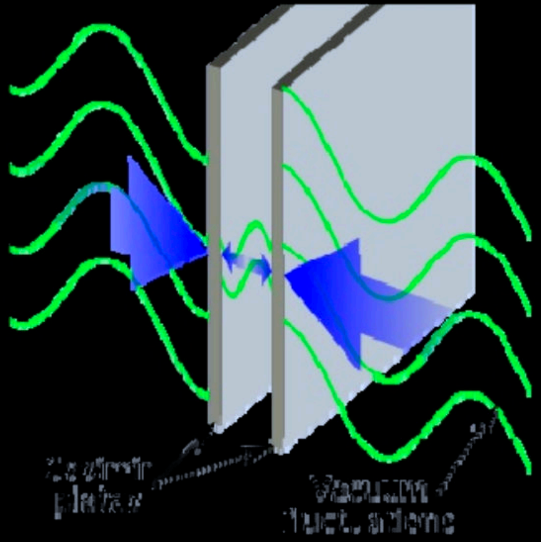


Only virtual pairs of certain wavelengths can exist between the plates

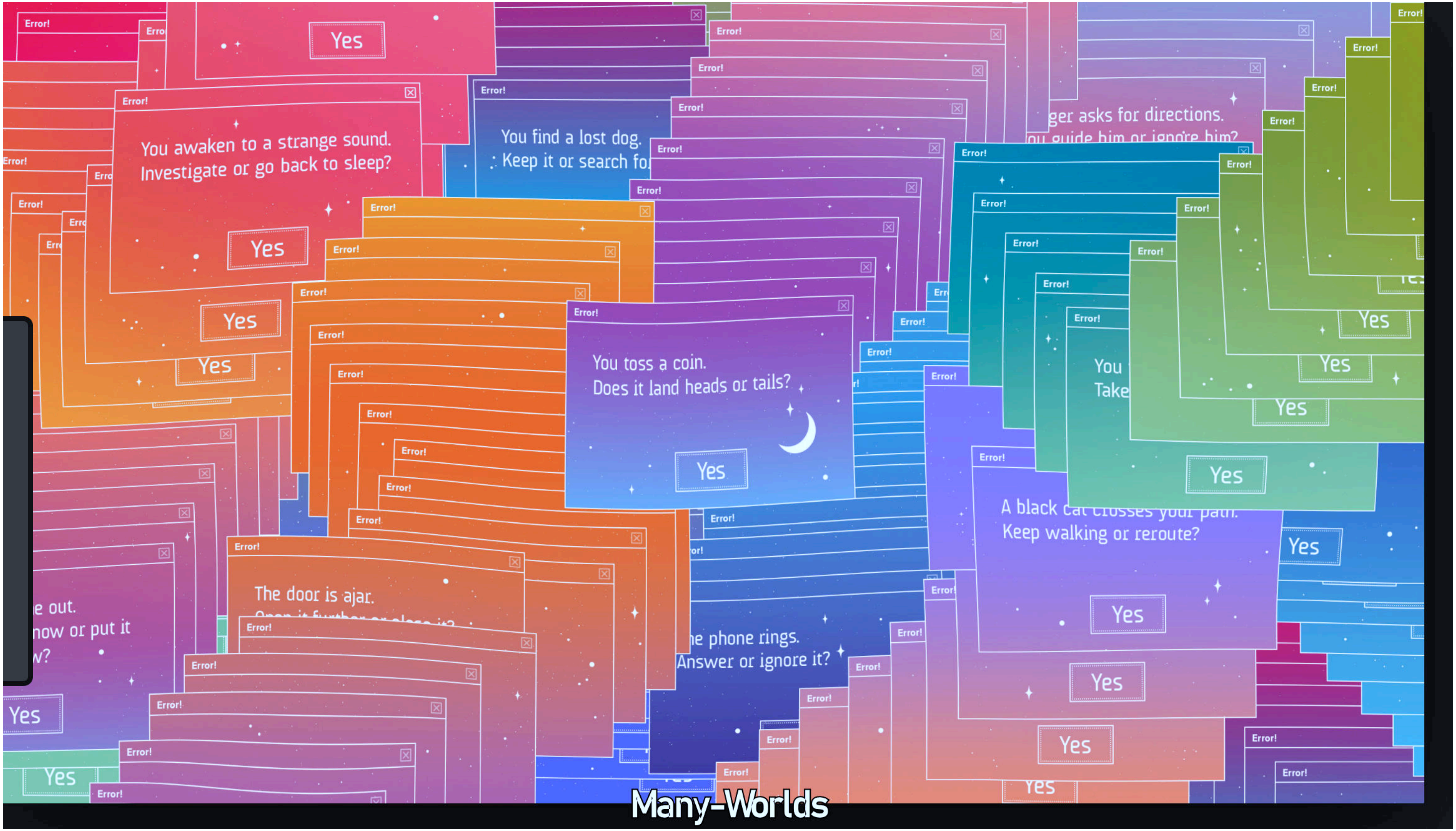
Casimir Effect



The Casimir effect: an imbalance in the quantum fluctuations of empty space can push two metal plates together



- Effect: QUANTUM ELECTRODYNAMIC FORCE
- Speed: SUBLUMINAL
- Special Spacetime Geometry: YES
- ✗ Time Travel to Future: NO
- ✓ Time Travel to Past: YES
- ✓ Matter Transport: YES
- ✓ Information Transport: YES
- ✓ Technically Viable: YES
- ✓ Possible w/o Exotic Materials: YES
- ✓ Low Input Power: YES



You awaken to a strange sound.
Investigate or go back to sleep?

You find a lost dog.
Keep it or search fo

ger asks for directions.
ou guide him or ignore him?

You toss a coin.
Does it land heads or tails?

A black cat crosses your path.
Keep walking or reroute?

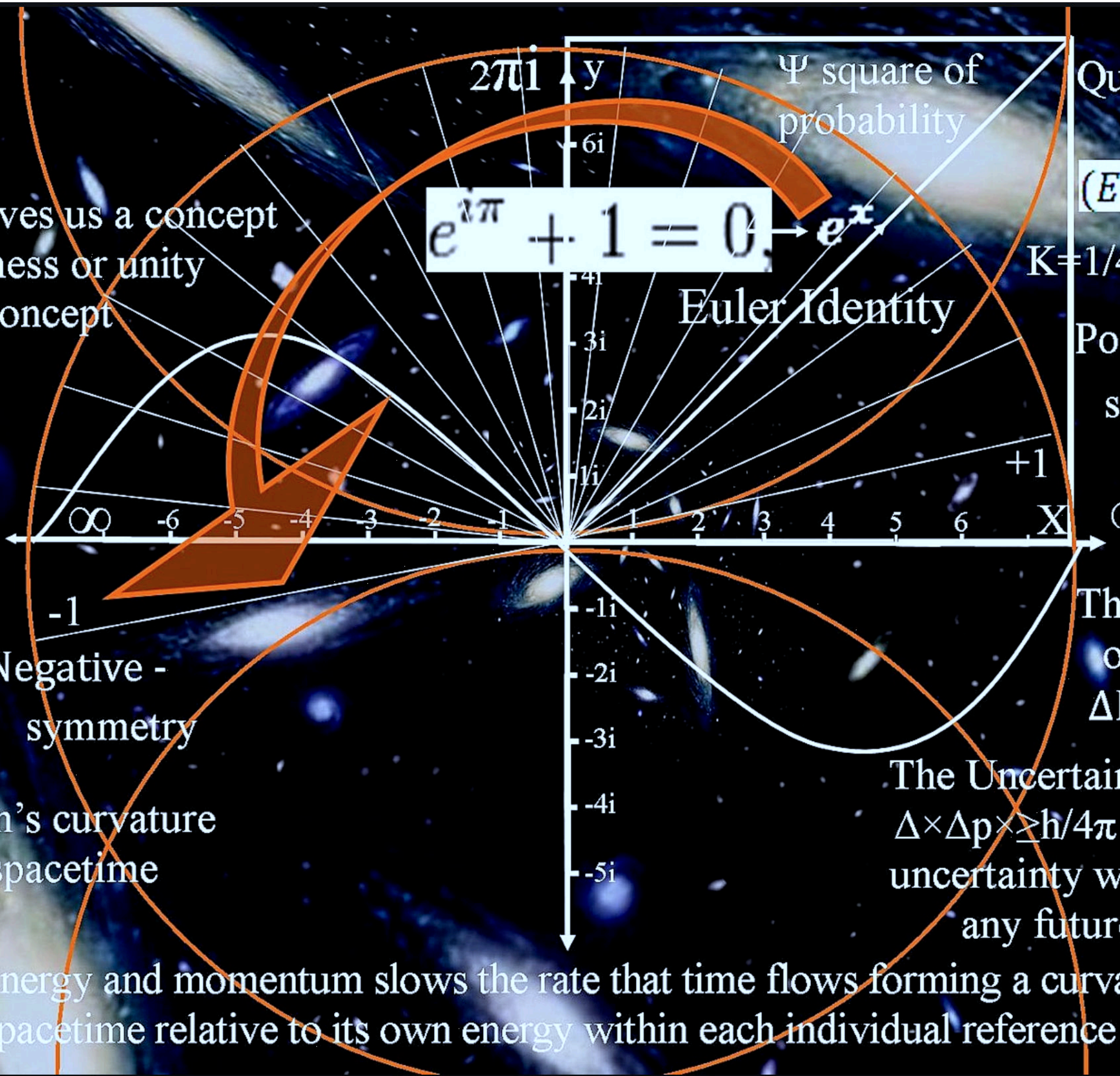
The door is ajar.
Open it further or close it?

e phone rings.
Answer or ignore it?

e out.
now or put it
w?

You
Take

Many-Worlds



$e^{i\pi} + 1 = 0 \rightarrow e^x$

Euler Identity

Ψ square of probability

Quantum Atom Theory

$(E = \gamma M_o C^2)^\infty$

$K = 1/4\pi\,\varepsilon_o$

This gives us a concept of oneness or unity and a concept of zero

Positive + symmetry

Past

Future

Negative - symmetry

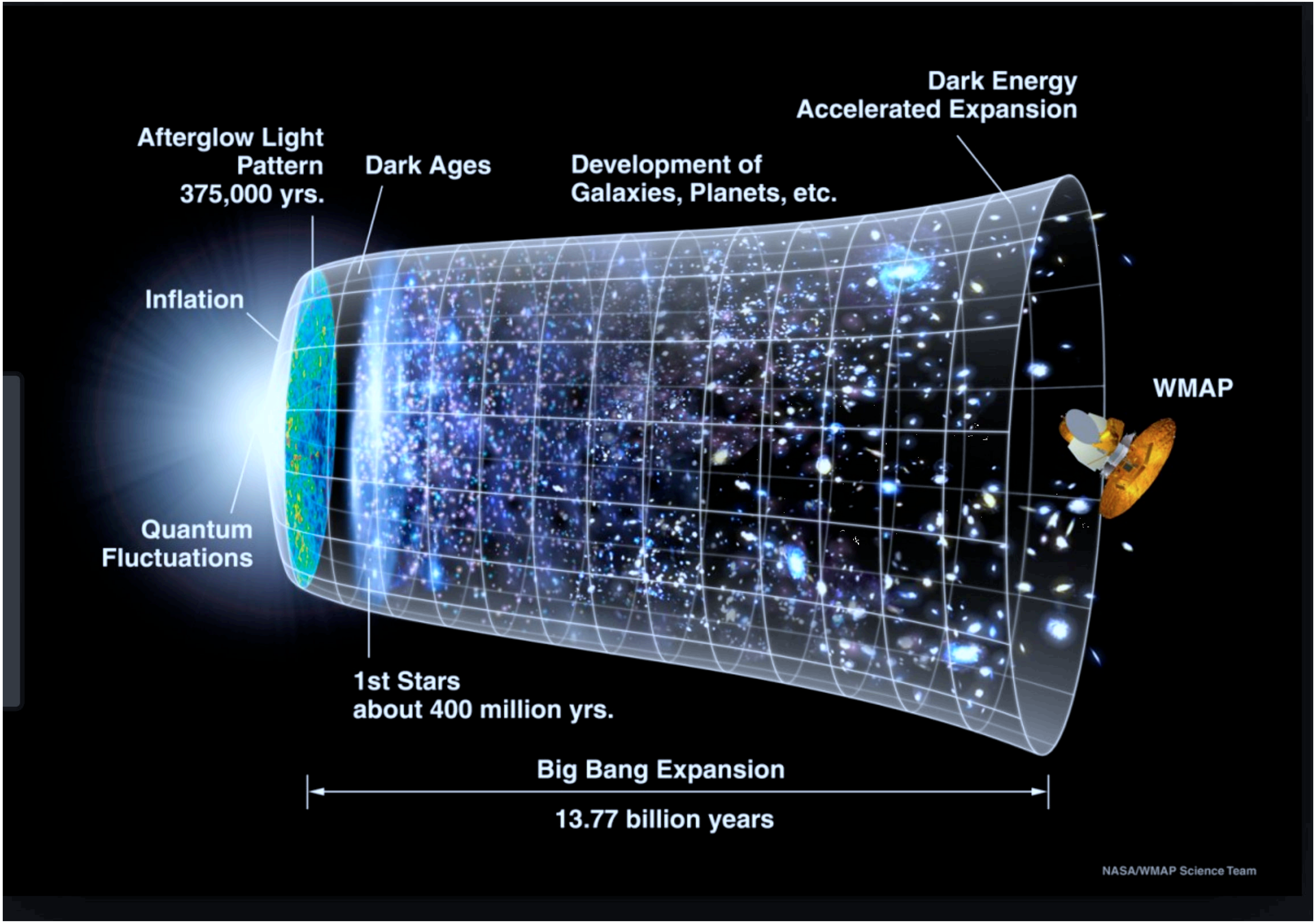
The Arrow of Time

$\Delta E\, \Delta t \geq h/2\pi$

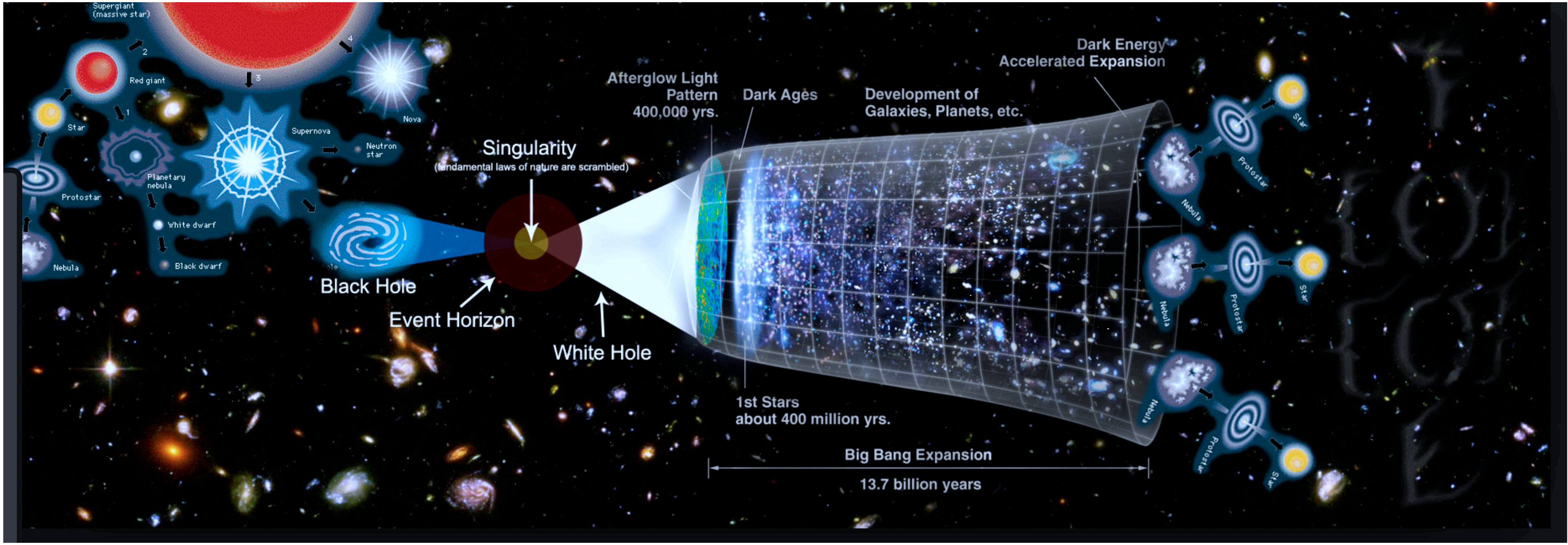
Einstein's curvature of spacetime

The Uncertainty Principle $\Delta x \times \Delta p \times \geq h/4\pi$ is the same uncertainty we have with any future event.

Energy and momentum slows the rate that time flows forming a curvature of spacetime relative to its own energy within each individual reference frame.


Afterglow Light Pattern 375,000 yrs.
Dark Ages
Development of Galaxies, Planets, etc.
Dark Energy Accelerated Expansion
Inflation
WMAP
Quantum Fluctuations
1st Stars about 400 million yrs.
Big Bang Expansion
13.77 billion years

NASA/WMAP Science Team

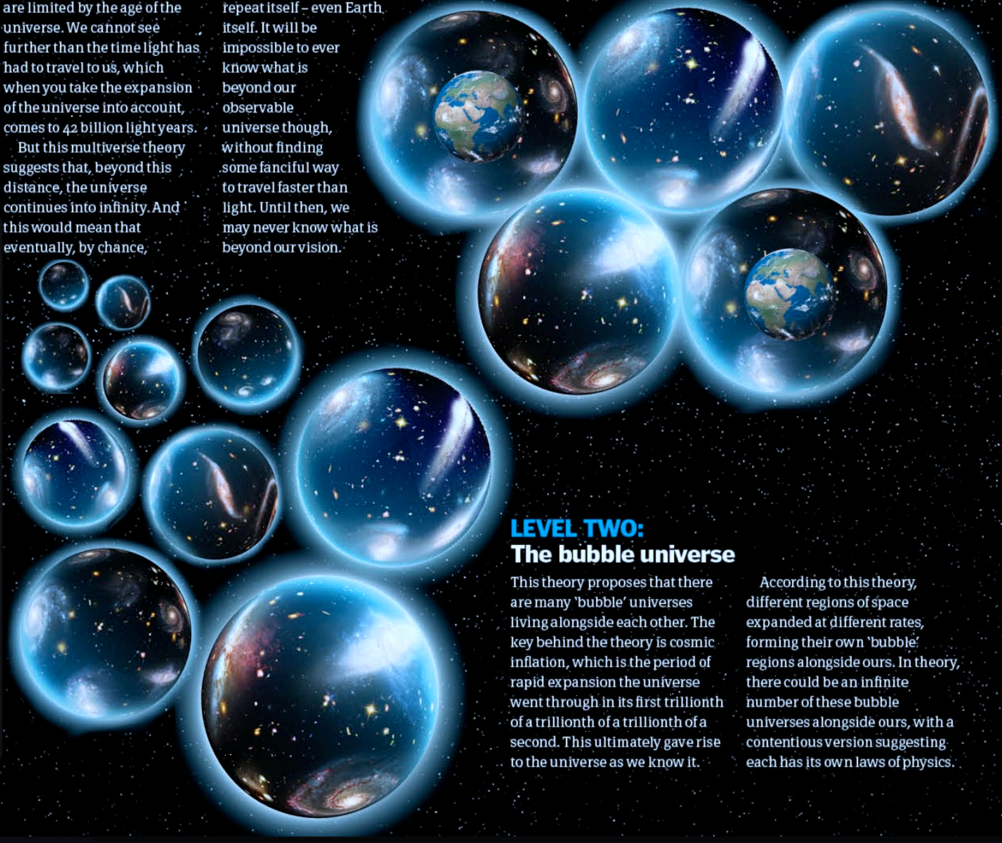

Supergiant (massive star)
Red giant
Star
Protostar
Nebula
1
2
3
4
Planetary nebula
White dwarf
Black dwarf
Supernova
Neutron star
Nova
Black Hole
Event Horizon
Singularity
(fundamental laws of nature are scrambled)
White Hole
Afterglow Light Pattern 400,000 yrs.
Dark Ages
Development of Galaxies, Planets, etc.
Dark Energy Accelerated Expansion
1st Stars about 400 million yrs.
Big Bang Expansion
13.7 billion years
Nebula
Protostar
Star
Nebula
Protostar
Star
Nebula
Protostar
Star

Different types of multiverse

LEVEL ONE:
An extension

Our views into the universe are limited by the age of the universe. We cannot see further than the time light has had to travel to us, which when you take the expansion of the universe into account, comes to 42 billion light years.

But this multiverse theory suggests that, beyond this distance, the universe continues into infinity. And this would mean that eventually, by chance, everything would start to repeat itself – even Earth itself. It will be impossible to ever know what is beyond our observable universe though, without finding some fanciful way to travel faster than light. Until then, we may never know what is beyond our vision.



LEVEL TWO:
The bubble universe

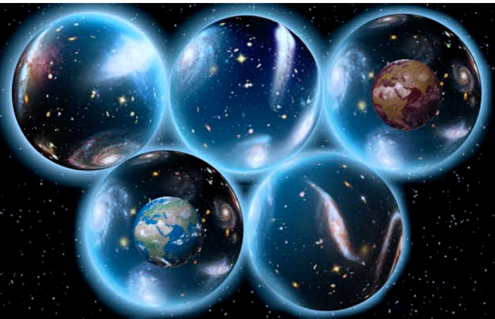
This theory proposes that there are many 'bubble' universes living alongside each other. The key behind the theory is cosmic inflation, which is the period of rapid expansion the universe went through in its first trillionth of a trillionth of a trillionth of a second. This ultimately gave rise to the universe as we know it.

According to this theory, different regions of space expanded at different rates, forming their own 'bubble' regions alongside ours. In theory, there could be an infinite number of these bubble universes alongside ours, with a contentious version suggesting each has its own laws of physics.

LEVEL THREE:
Many worlds

The many-worlds theory relies on quantum mechanics. The quantum world is odd, in that things such as photons can appear to be in two places, or states, at once. It is only when we observe the photon that its state is decided.

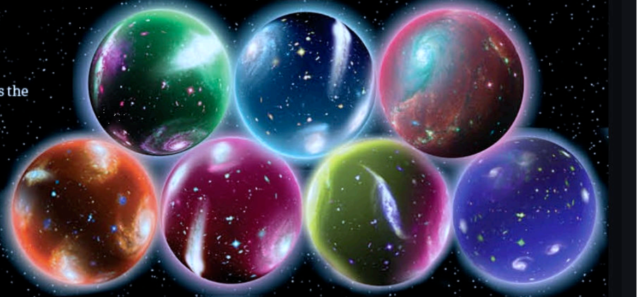
In this theory, though, both states exist. And, in fact, this is happening constantly for everything around us, at all times. Each time there is a 'split', a new universe is created, giving rise to an infinite number of universes. This is probably the closest theory to the idea of 'parallel universes' where one could envision jumping into a nearby universe. It's pretty unlikely that'll ever be possible, though.

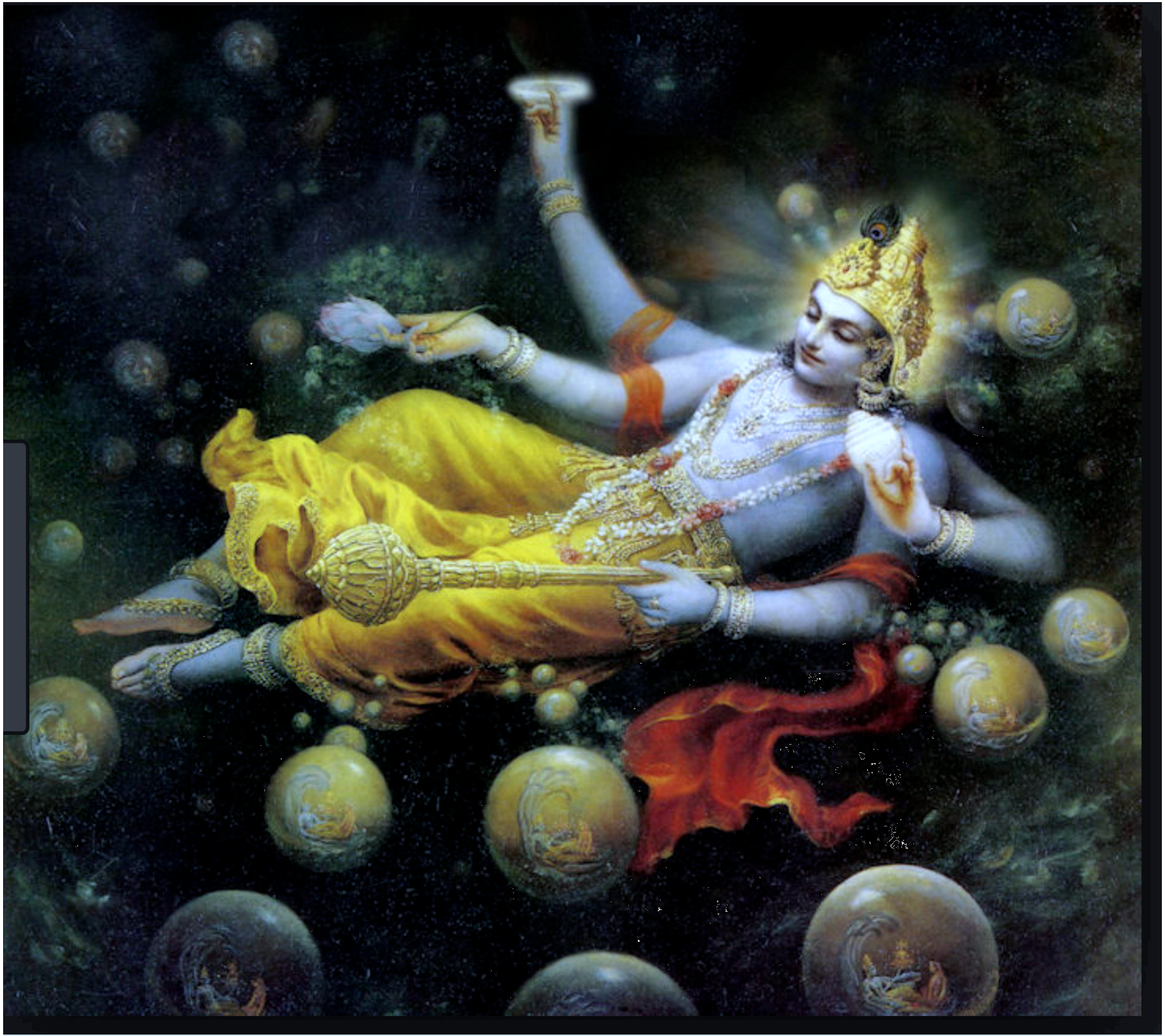


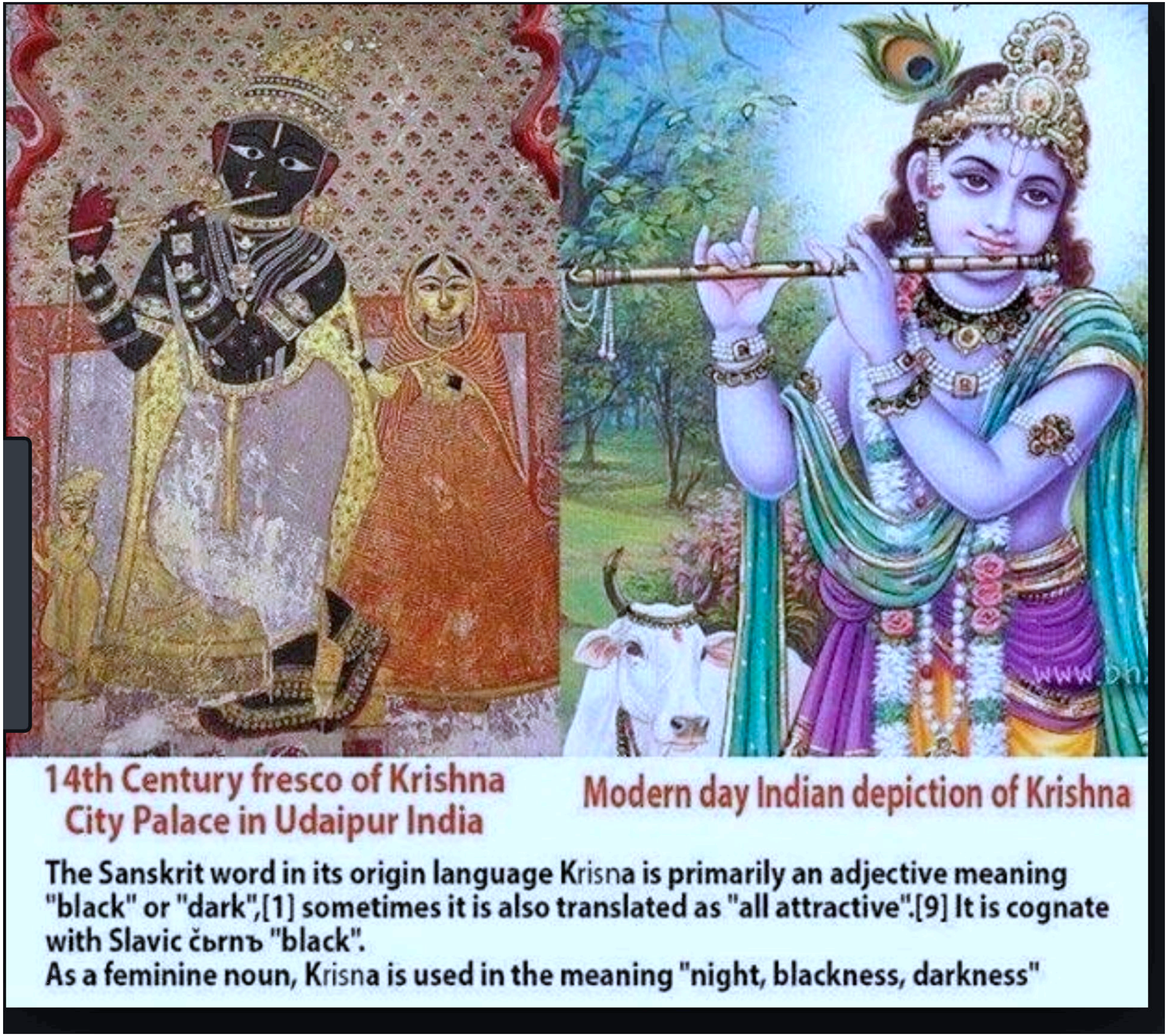
LEVEL FOUR:
Mathematical universe

This theory is probably the one that is most widely derided. Max Tegmark goes into detail in his doorstop of a book *Our Mathematical Universe*, but in essence, it suggests that our universe, and all other universes, are nothing but mathematical constructs. We are quite simply lumps of mathematics manifested as a consciousness that can perceive this seemingly 'real' world.

It is described by some as the 'ultimate ensemble' and, owing to its nature being everything broken down into mathematics, there cannot be another broader multiverse theory beyond it. As you might have guessed, it's a bit controversial.



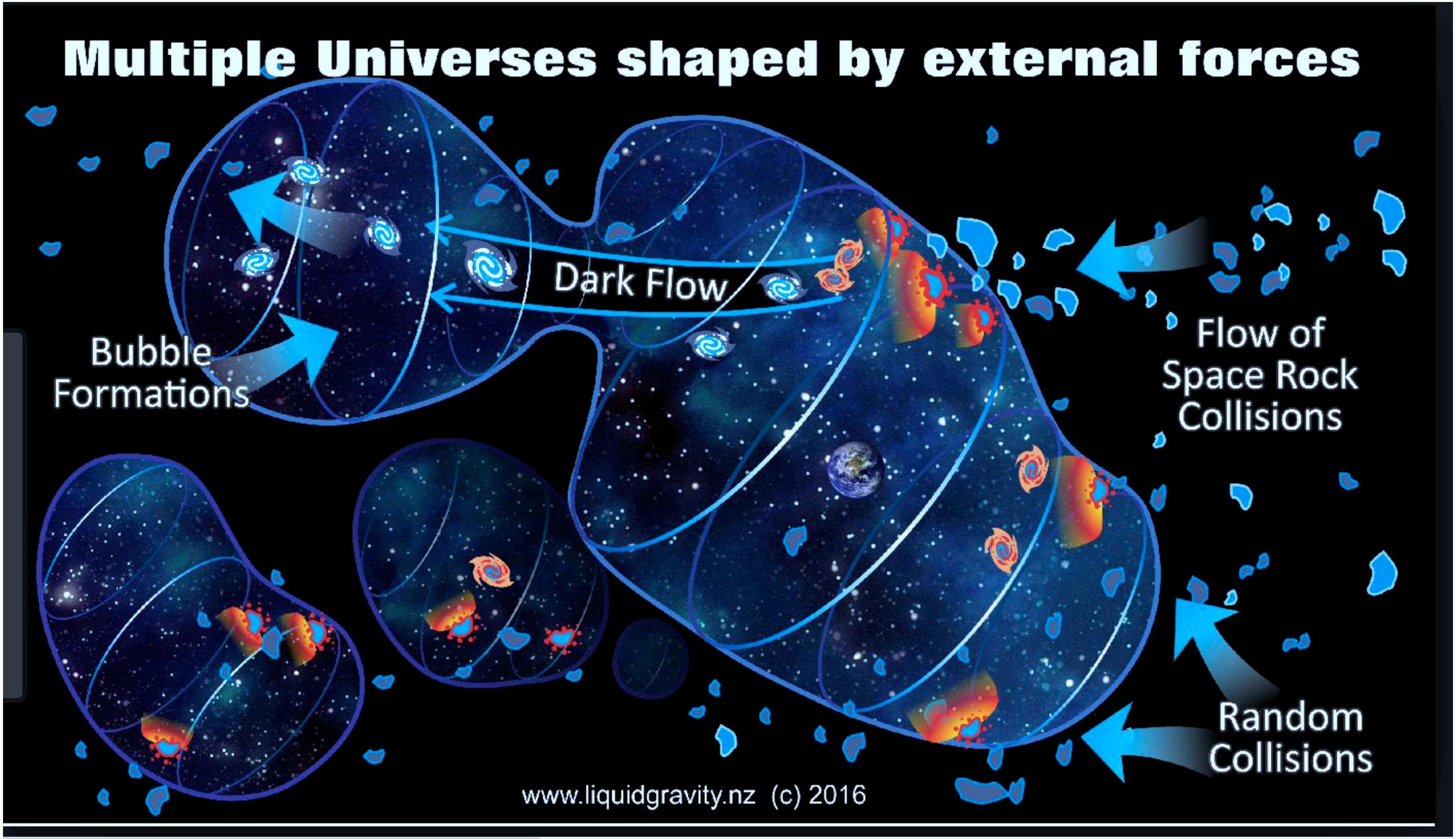


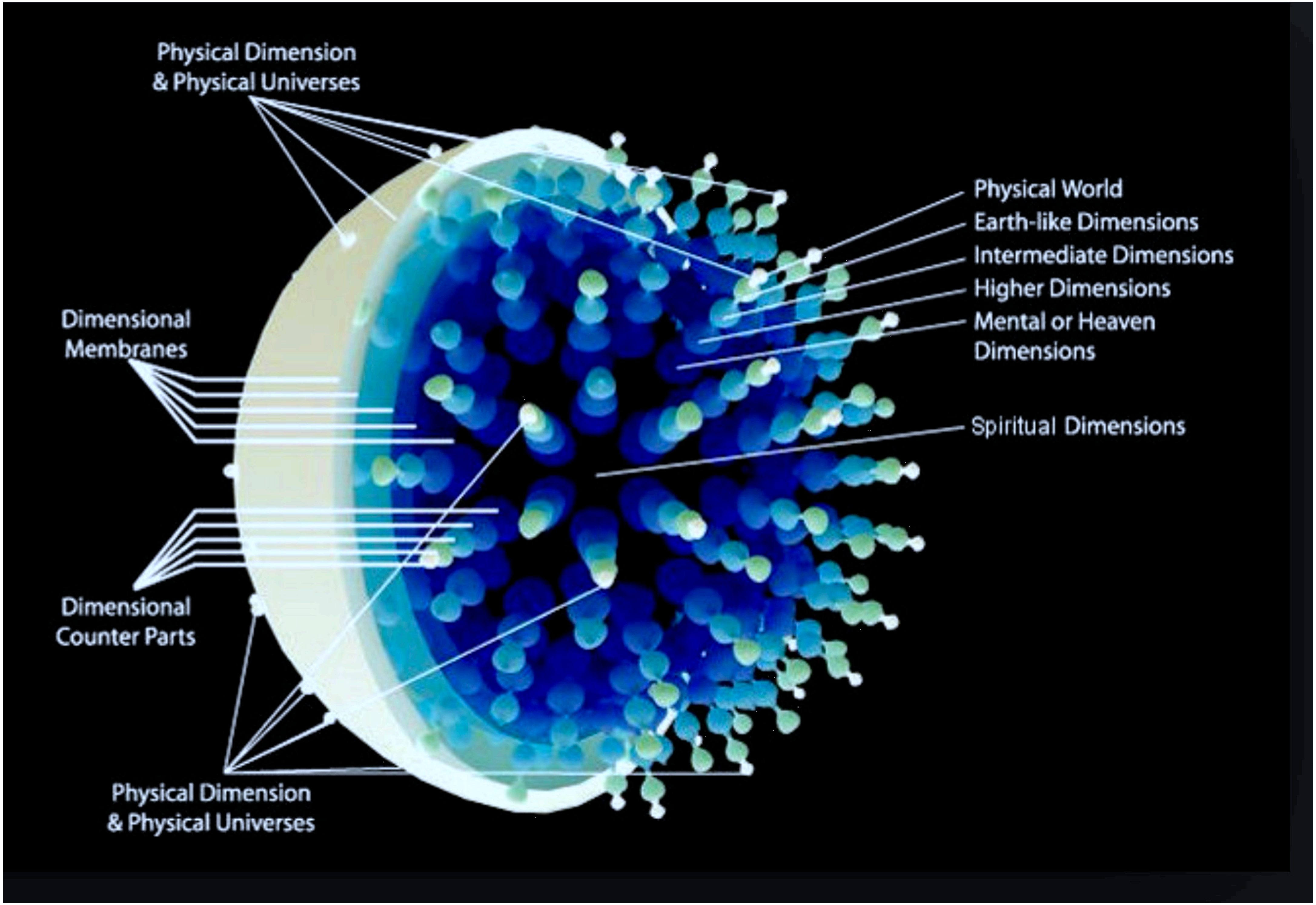


14th Century fresco of Krishna
City Palace in Udaipur India

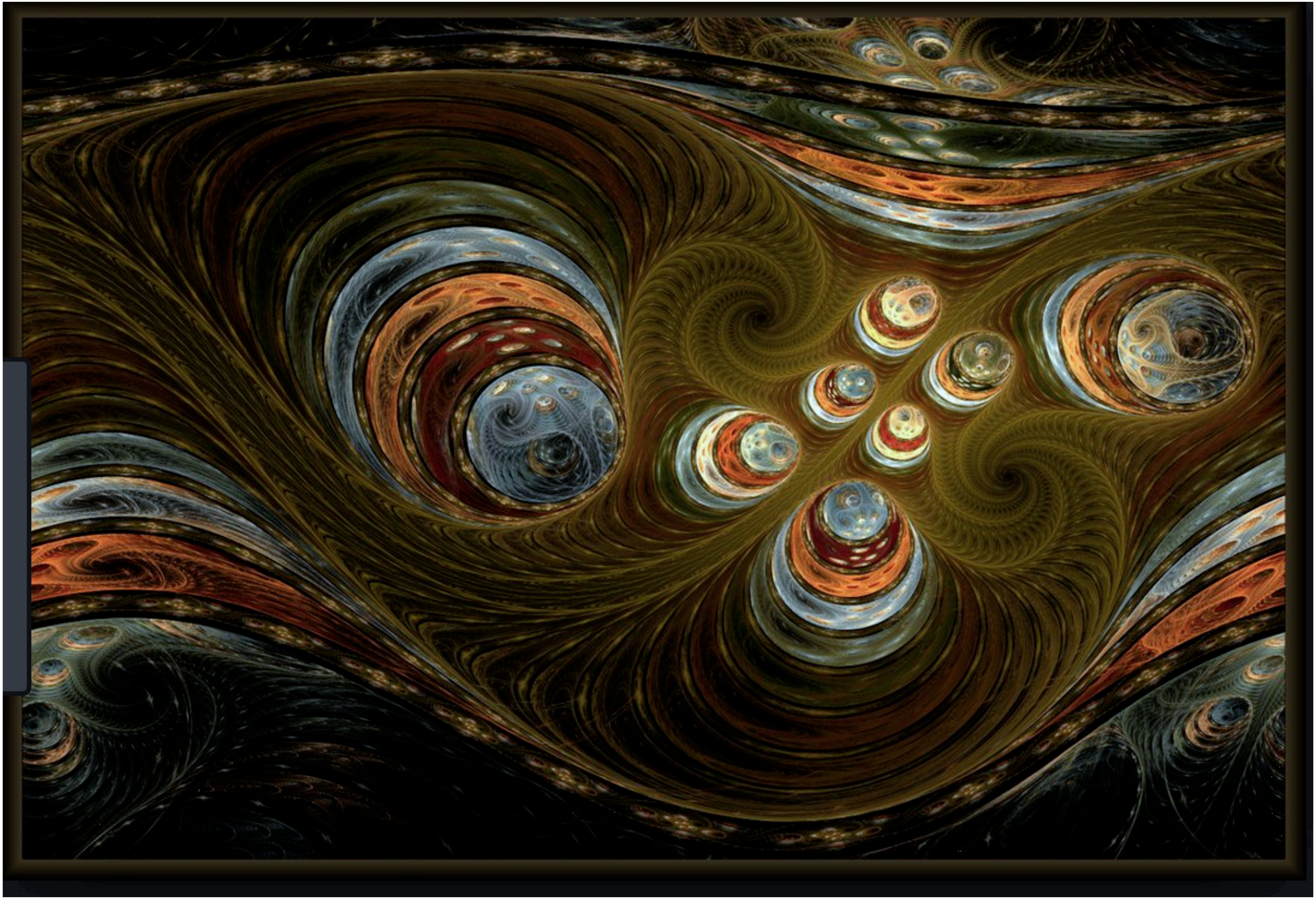
Modern day Indian depiction of Krishna

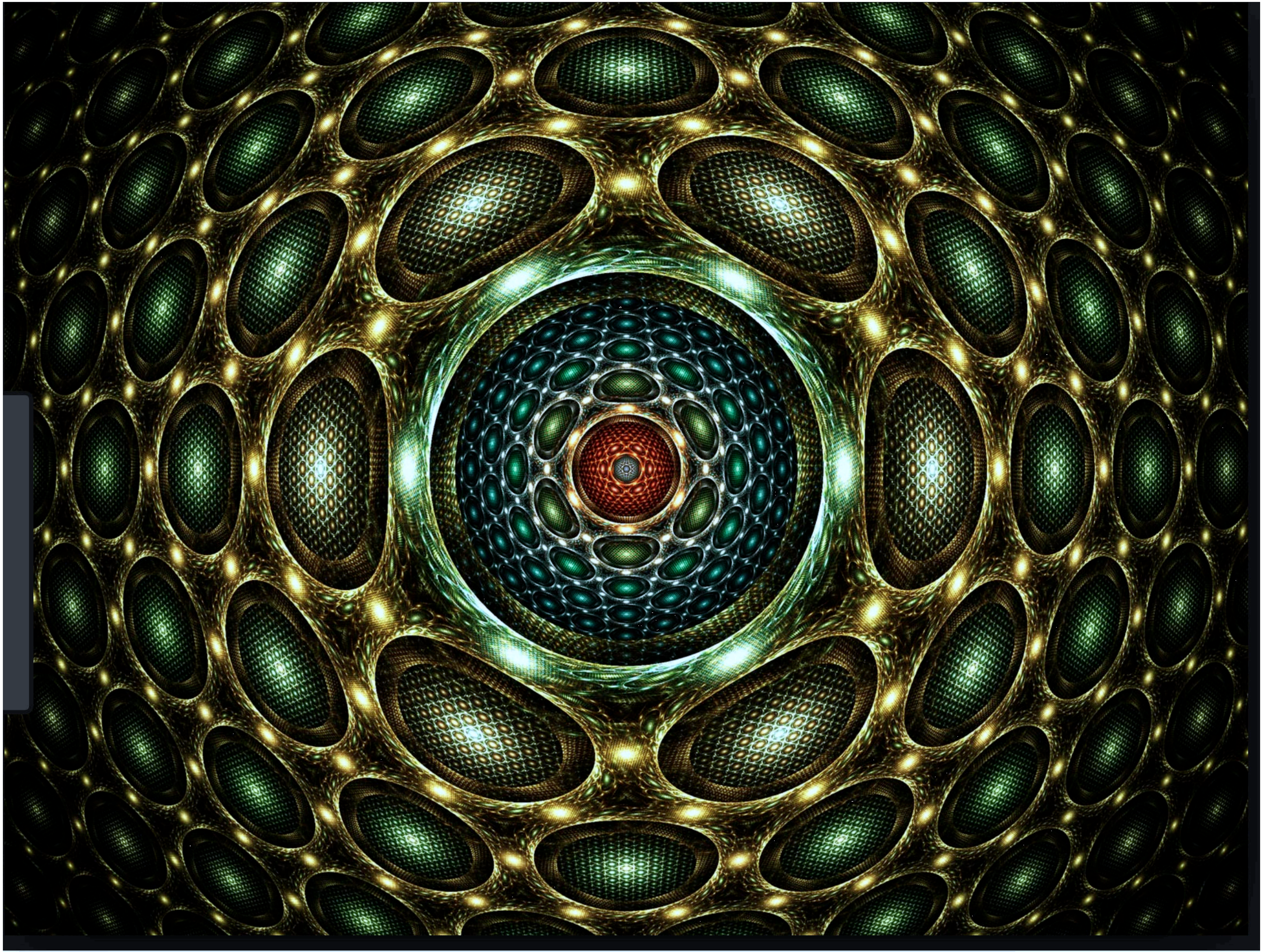
The Sanskrit word in its origin language Krisna is primarily an adjective meaning "black" or "dark",[1] sometimes it is also translated as "all attractive".[9] It is cognate with Slavic čьrnъ "black".
As a feminine noun, Krisna is used in the meaning "night, blackness, darkness"

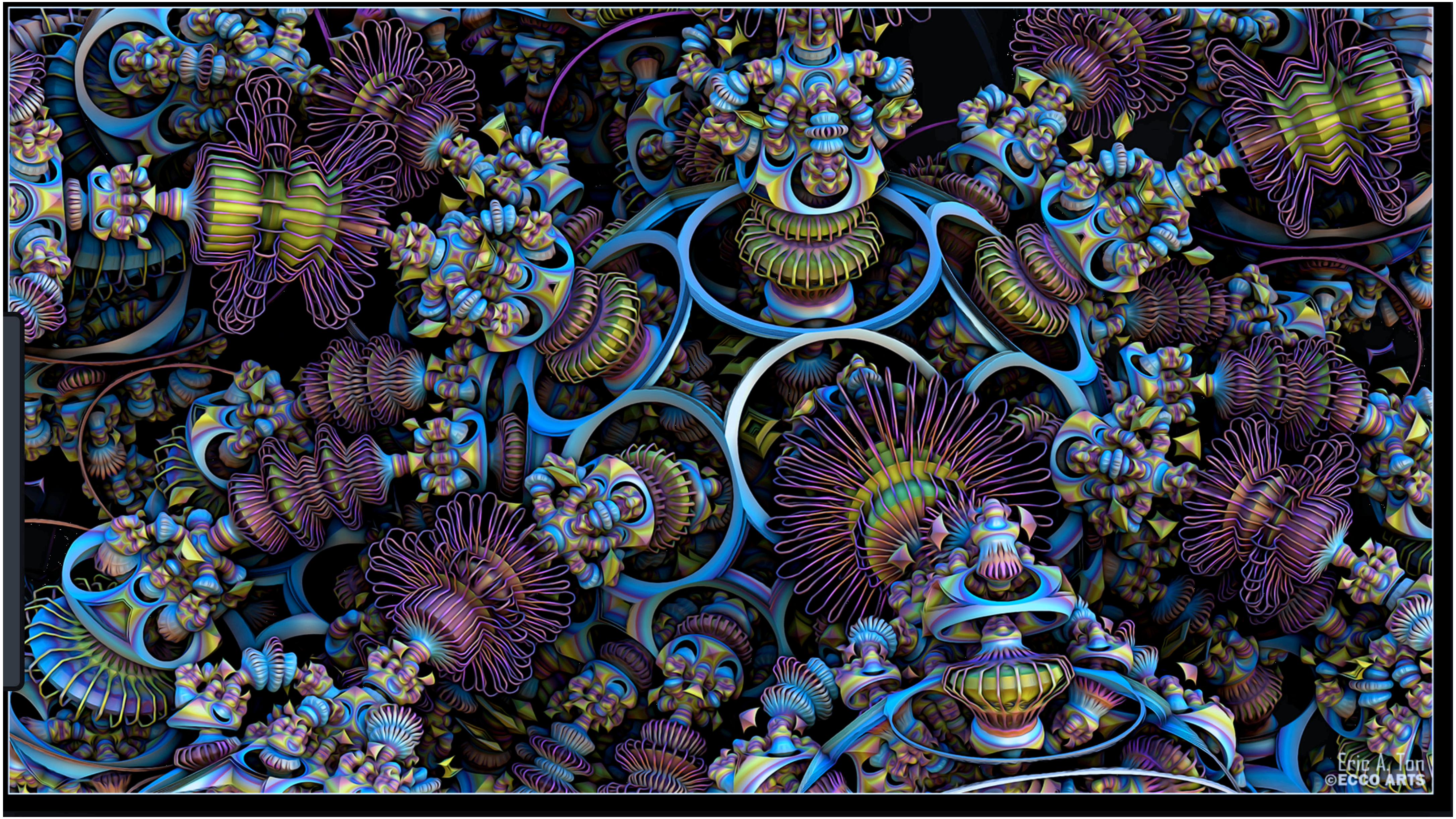

Multiple Universes shaped by external forces
Dark Flow
Bubble Formations
Flow of Space Rock Collisions
Random Collisions
www.liquidgravity.nz (c) 2016

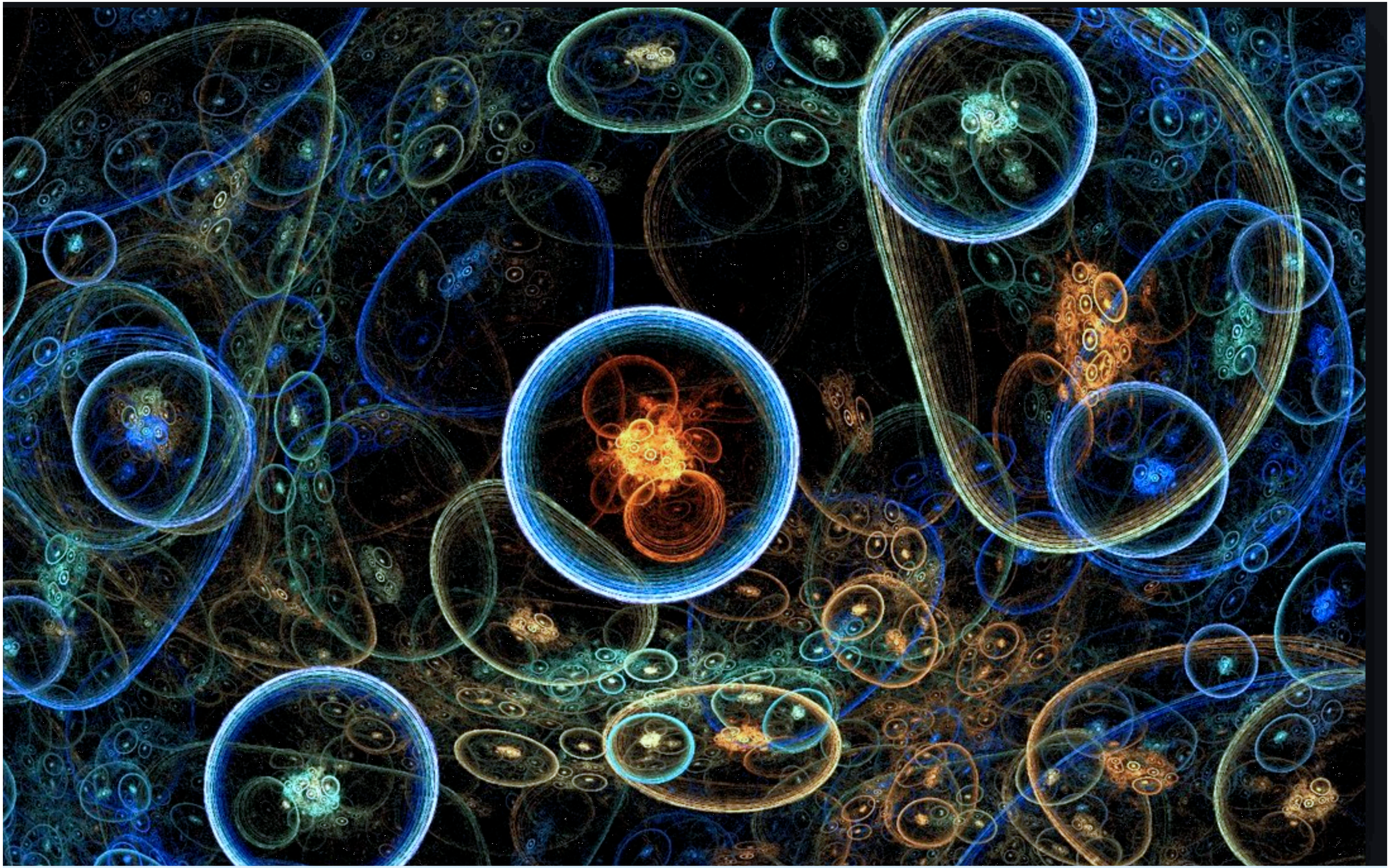

Physical Dimension
& Physical Universes
Physical World
Earth-like Dimensions
Intermediate Dimensions
Higher Dimensions
Mental or Heaven
Dimensions
Dimensional
Membranes
Spiritual Dimensions
Dimensional
Counter Parts
Physical Dimension
& Physical Universes

SAM 2010

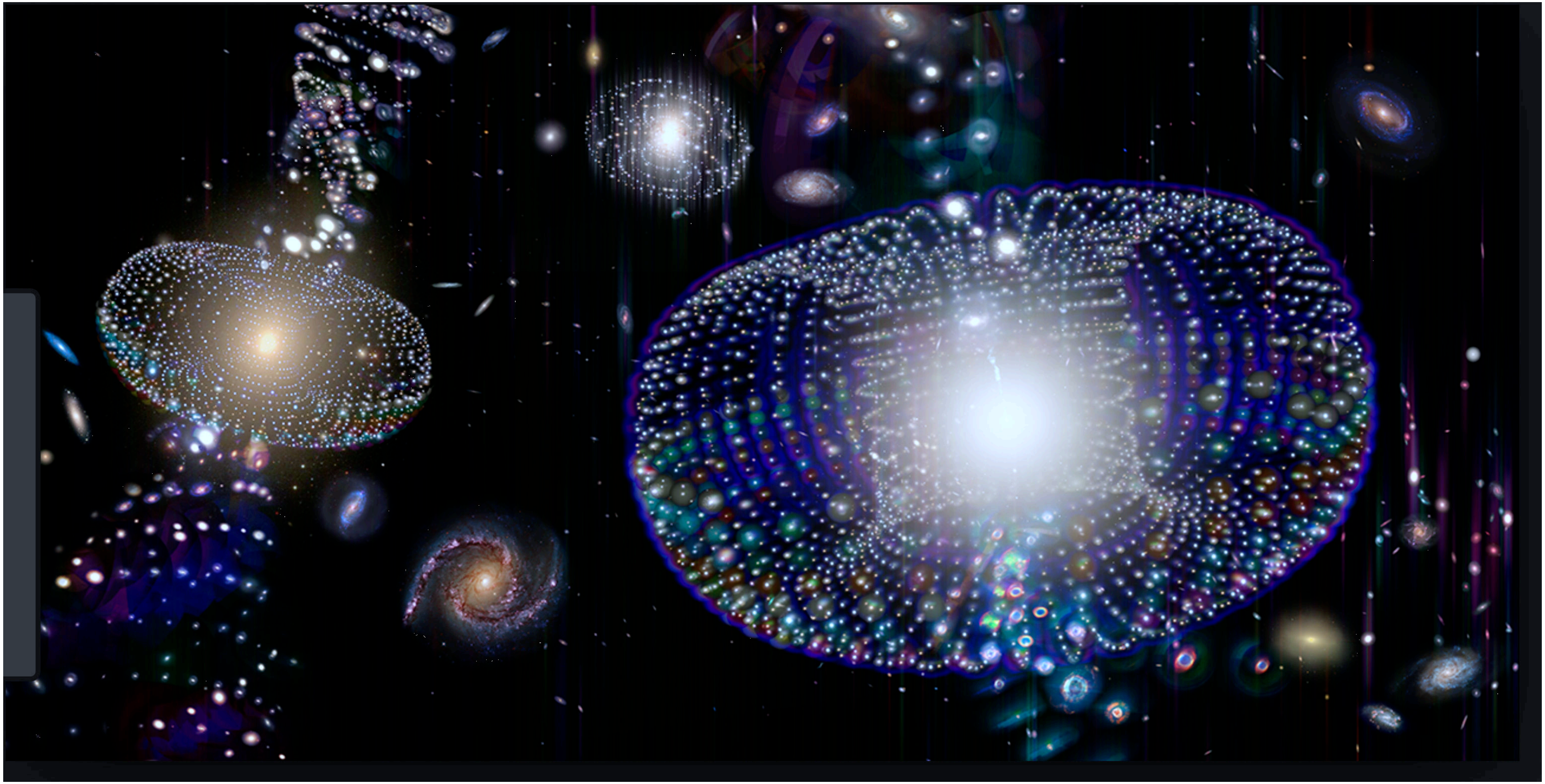


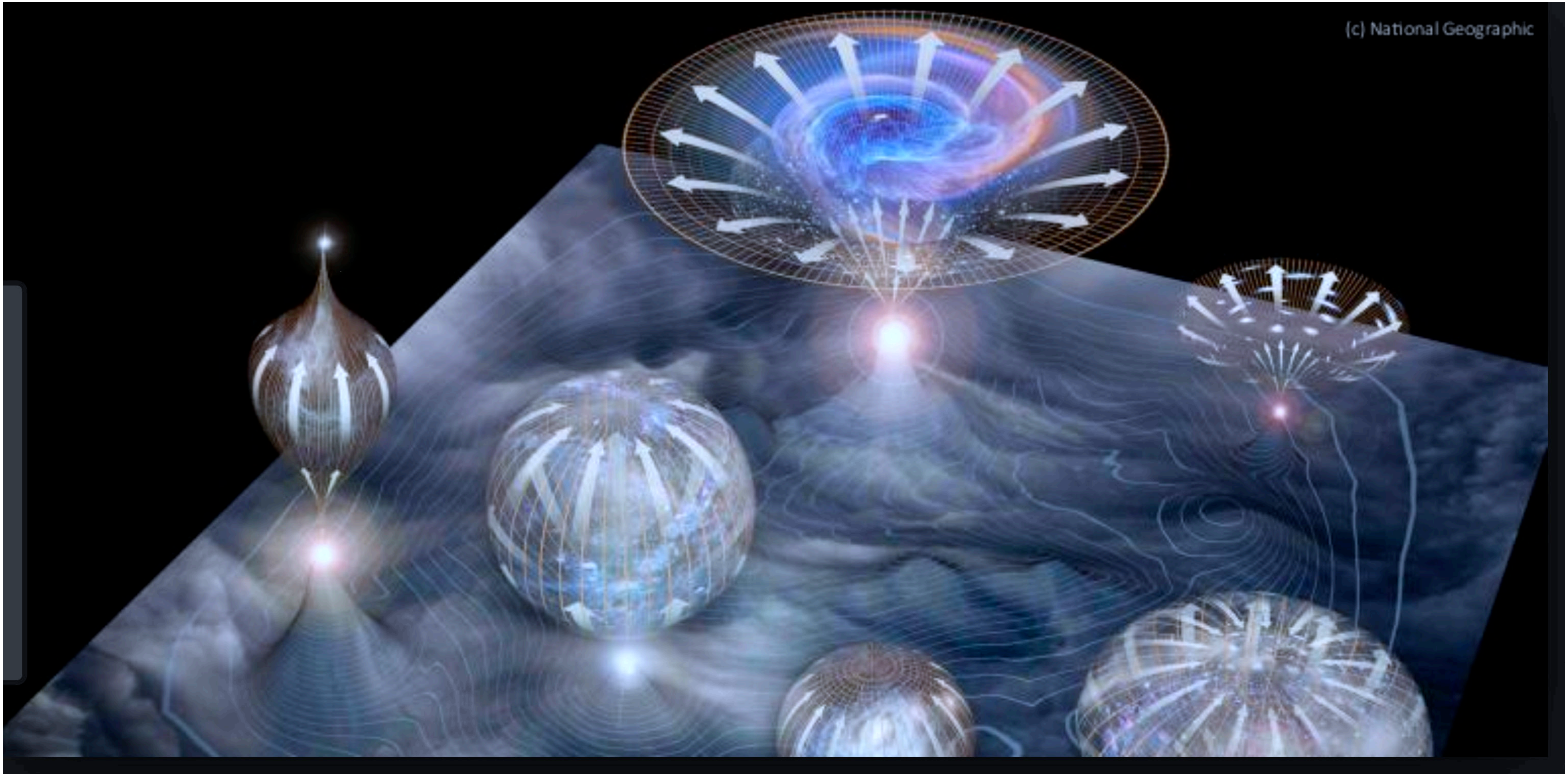



Eric A. Ton
©ECCO ARTS



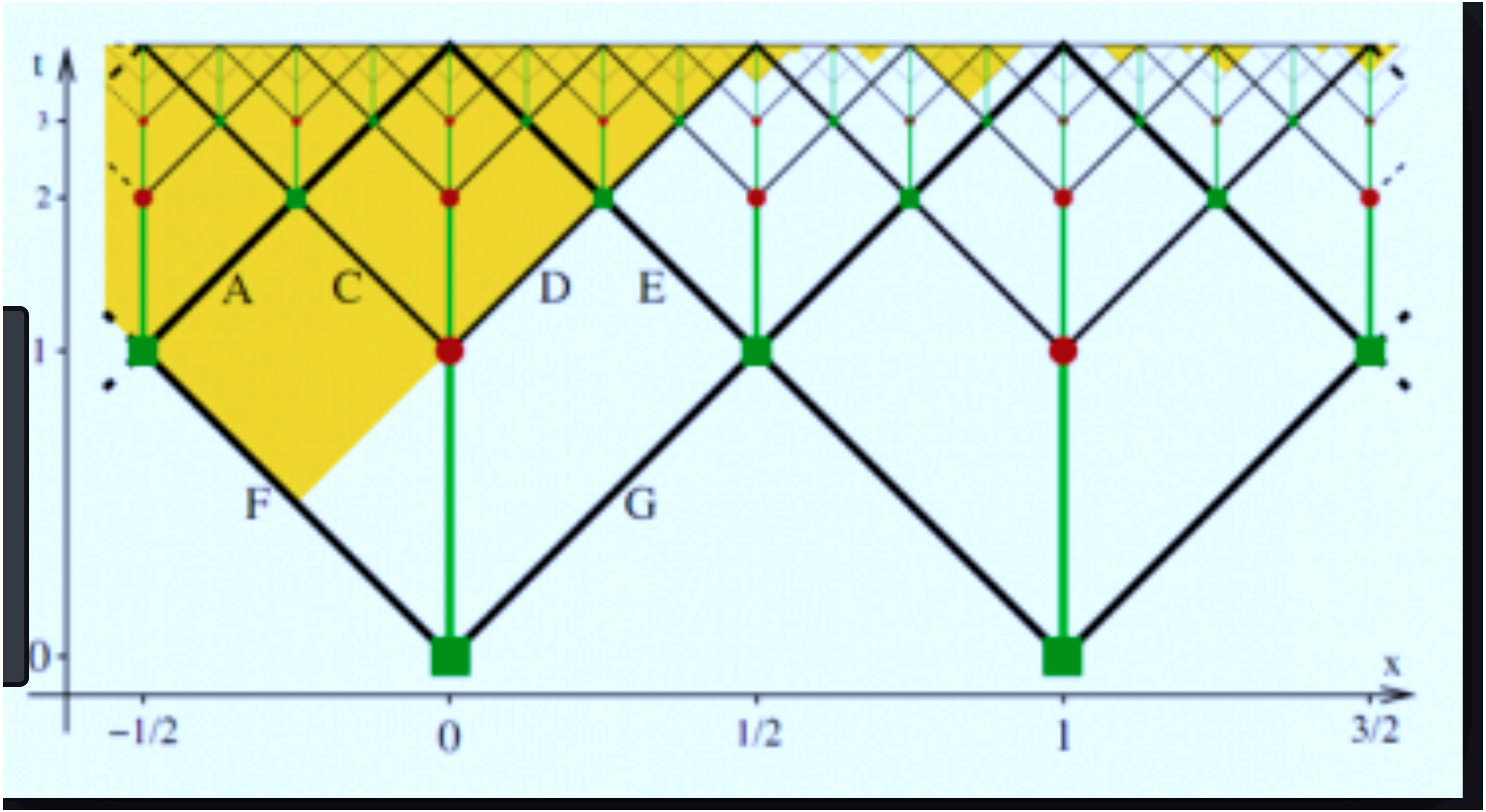
https://www.google.com/imgres?imgurl=http%3A%2F%2Fimages6.fanpop.com%2Fimage%2Fphotos%2F39400000%2F011-mark-ruffalo-39498524-1131-707.jpg&imgrefurl=http%3A%2F%2Fde.fanpop.com%2Fclubs%2Fmar

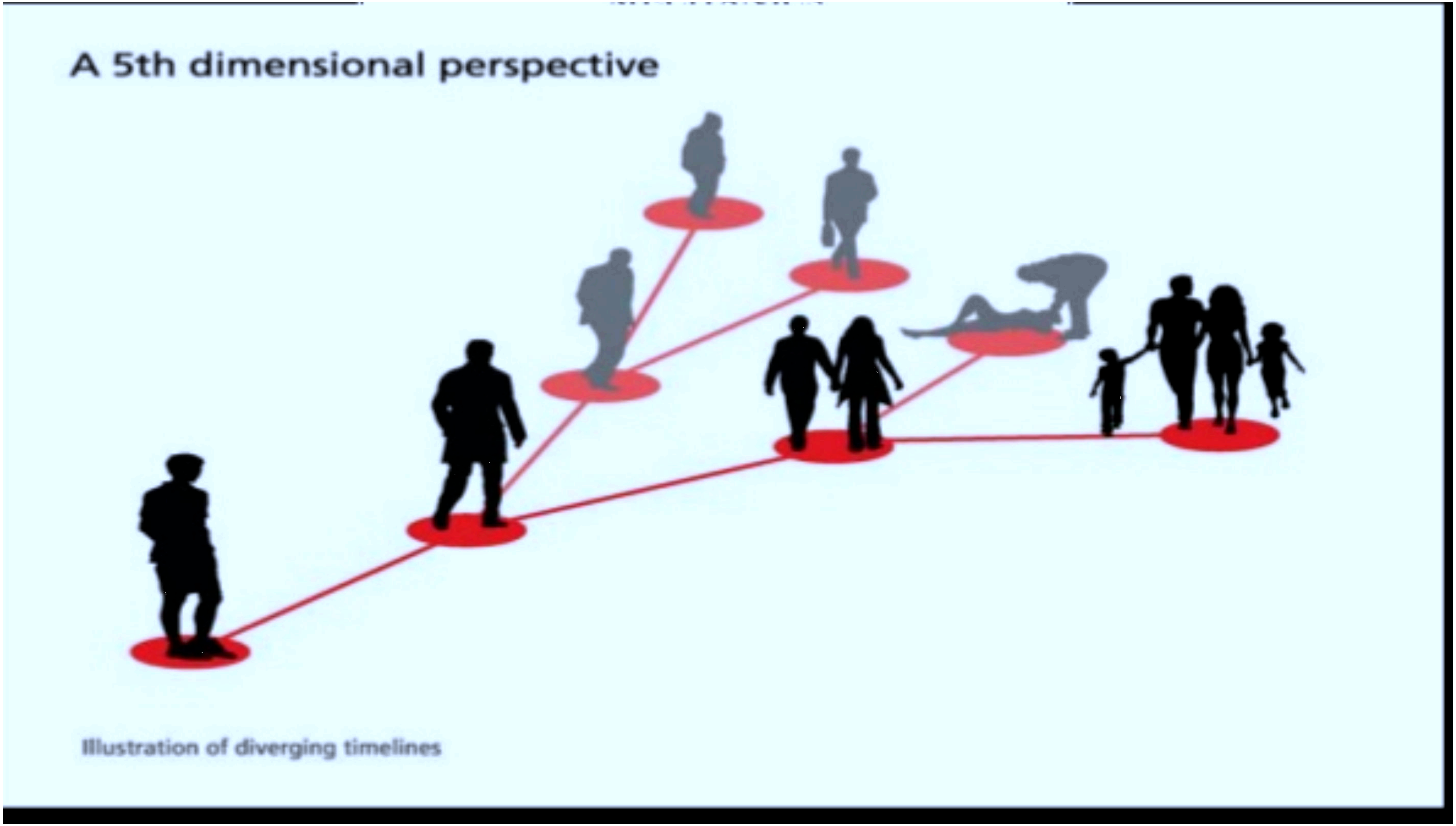




(c) National Geographic

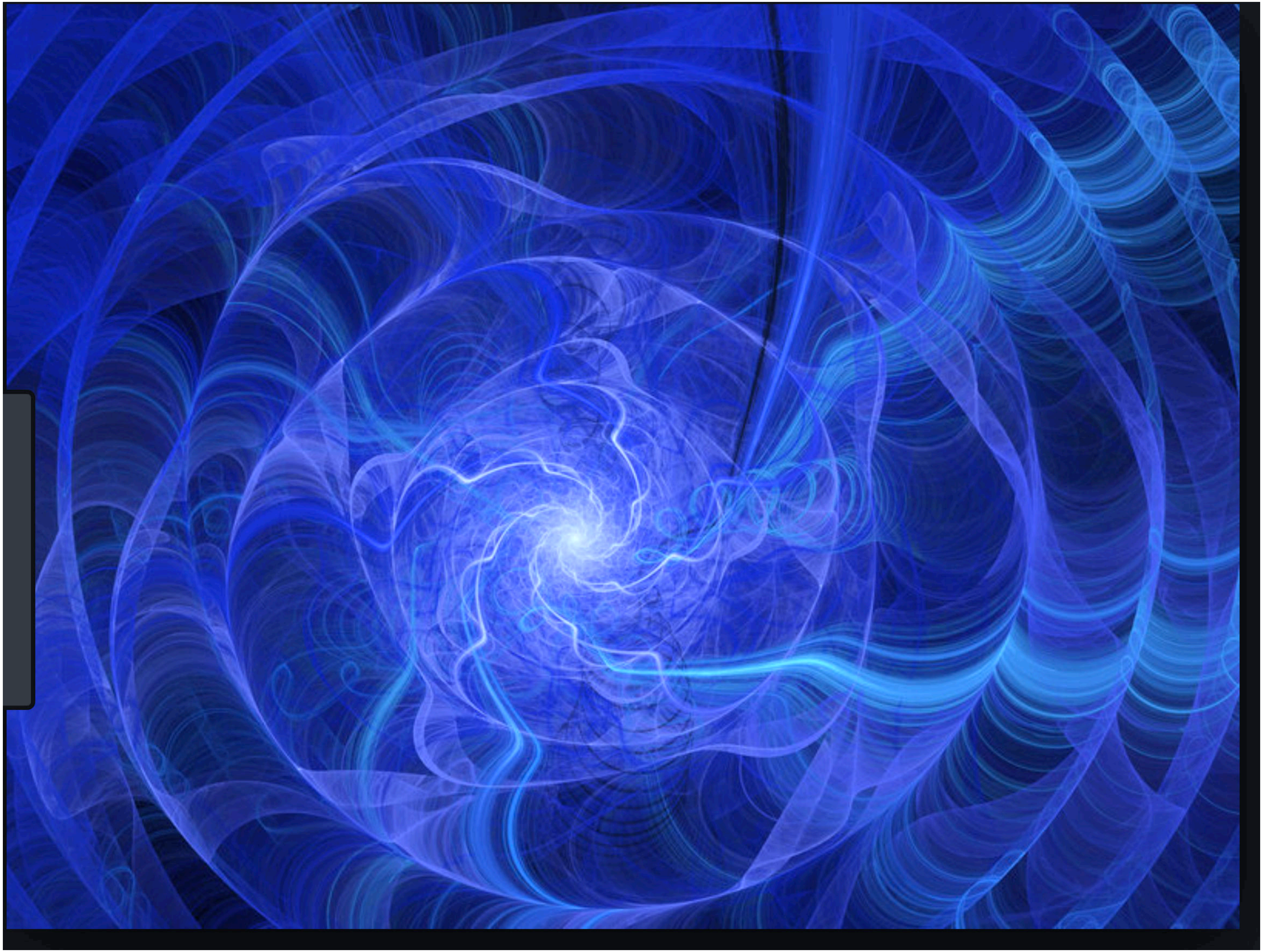
?v=clOyNeKlN6Q

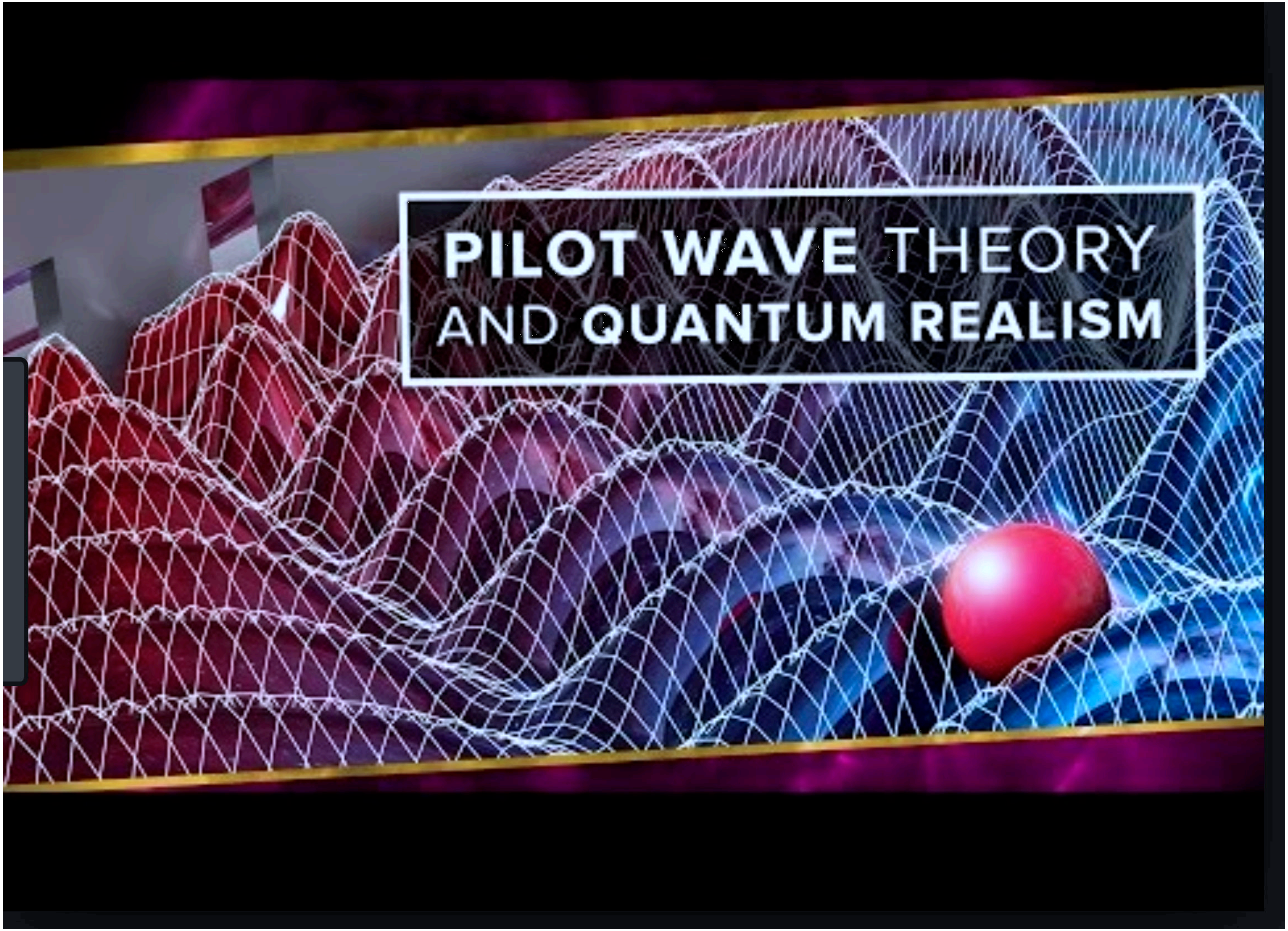

t
3
2
1
0
A
C
D
E
F
G
x
−1/2
0
1/2
1
3/2

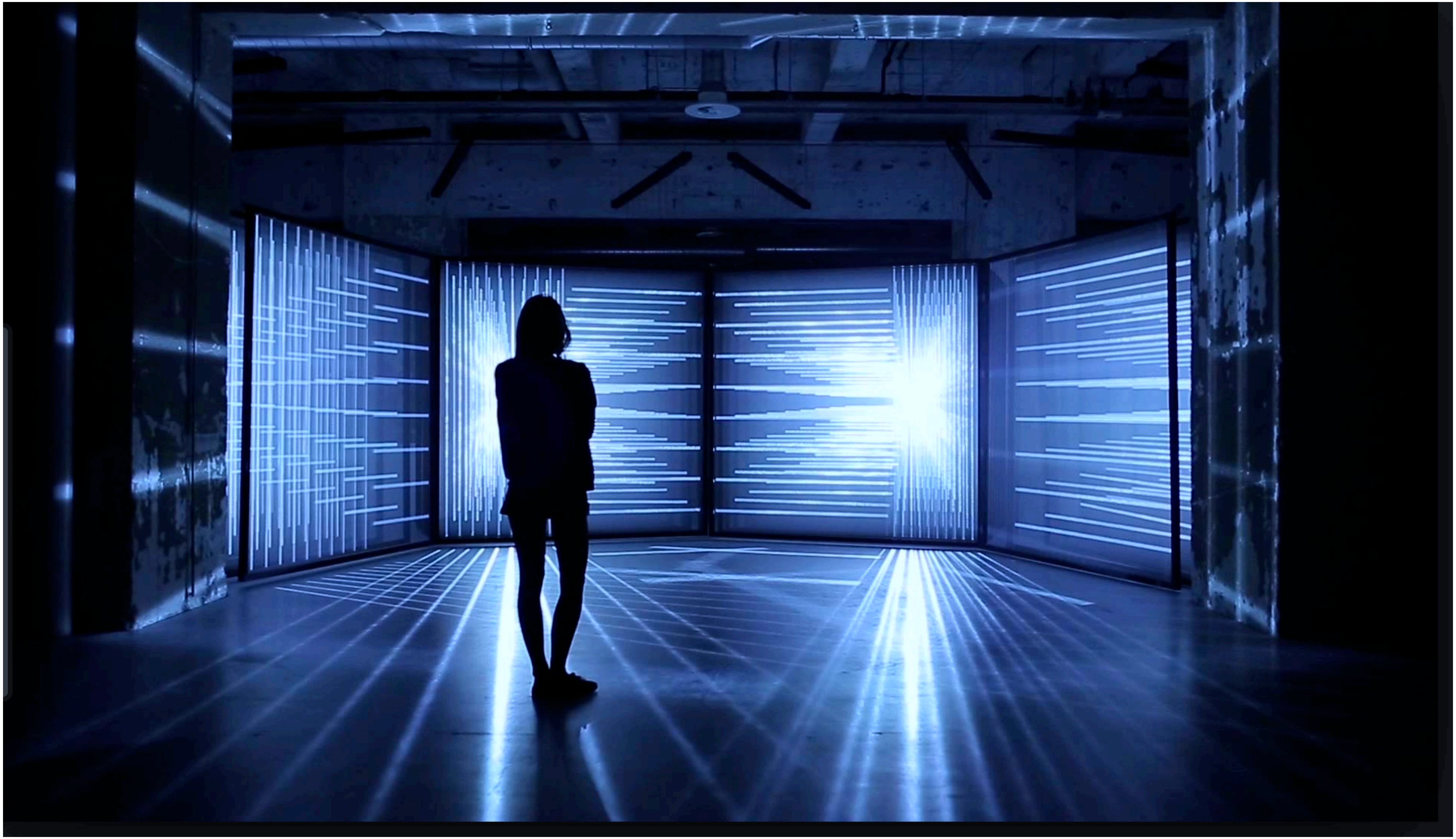


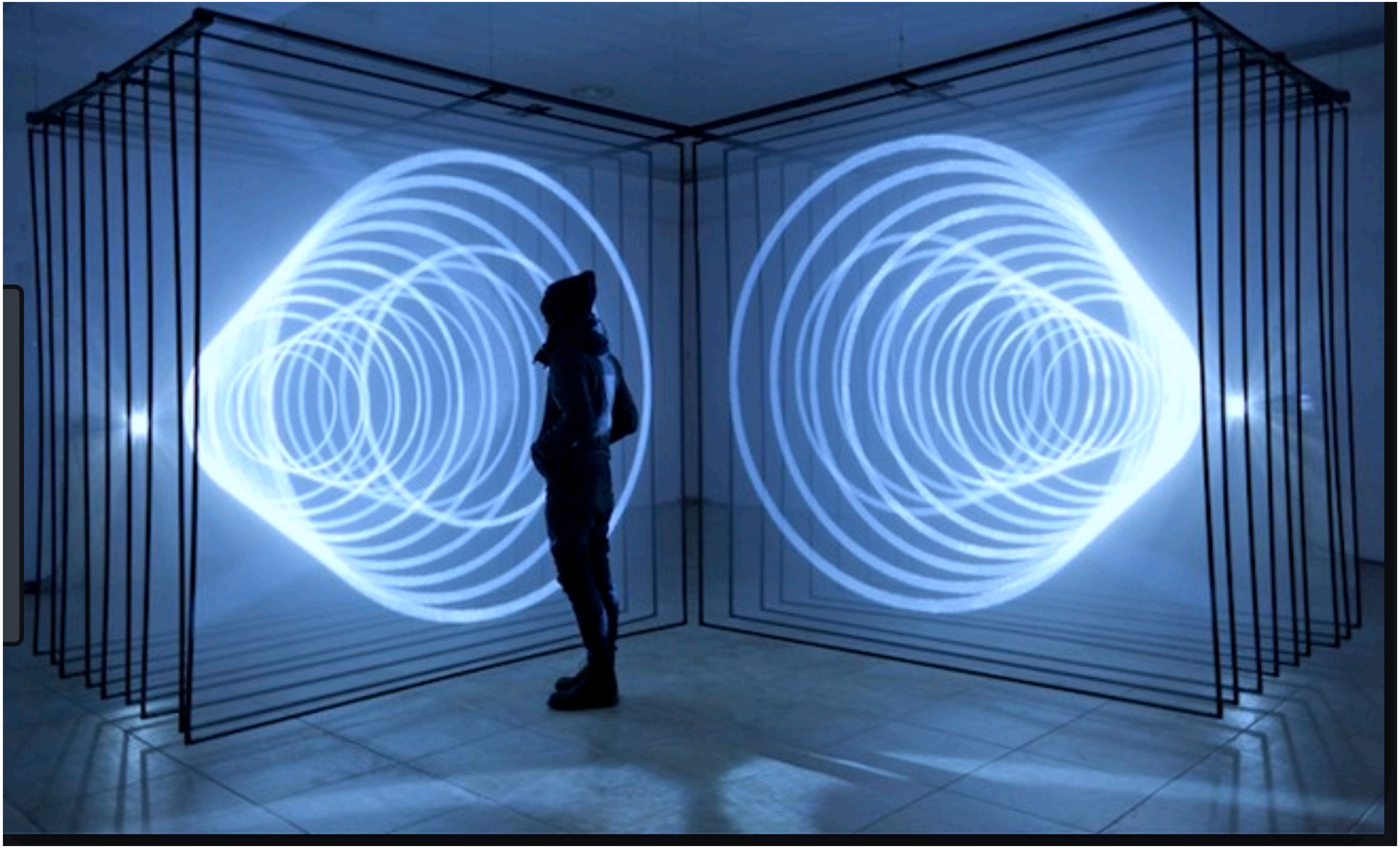
A 5th dimensional perspective

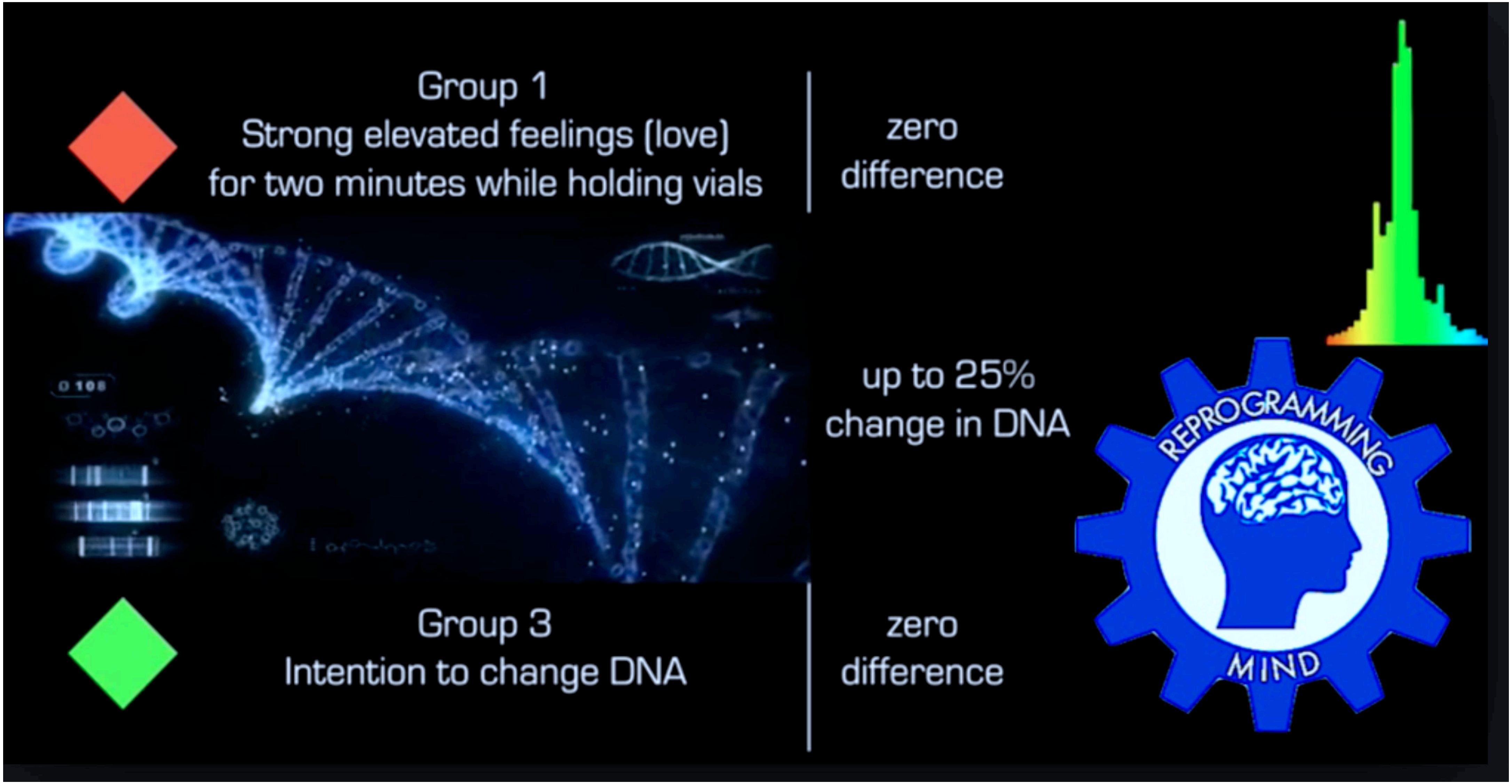
Illustration of diverging timelines




PILOT WAVE THEORY
AND QUANTUM REALISM







Group 1
Strong elevated feelings (love)
for two minutes while holding vials

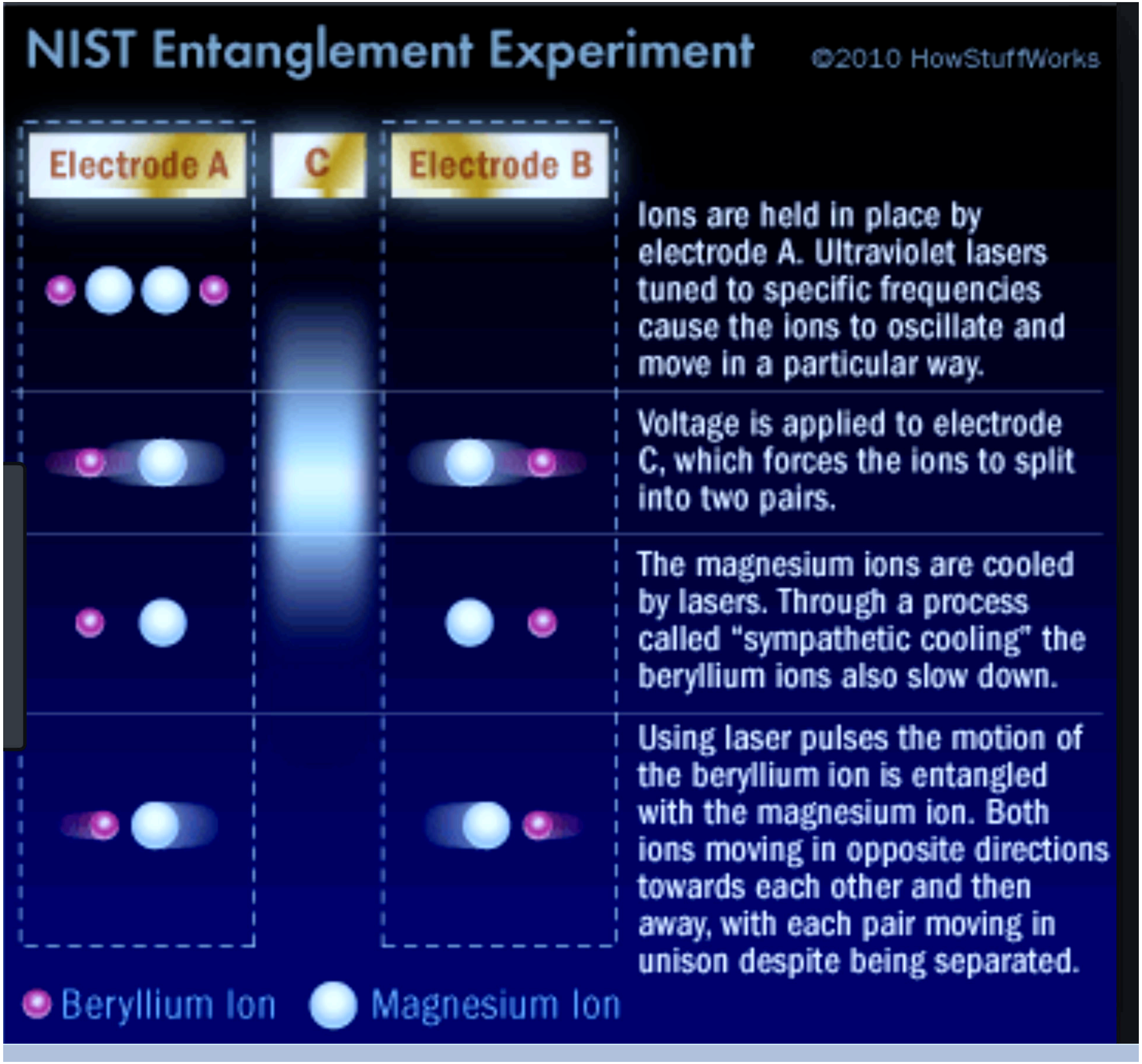
zero
difference

up to 25%
change in DNA

Group 3
Intention to change DNA

zero
difference

0 108
REPROGRAMMING
MIND



NIST Entanglement Experiment

©2010 HowStuffWorks

Ions are held in place by electrode A. Ultraviolet lasers tuned to specific frequencies cause the ions to oscillate and move in a particular way.

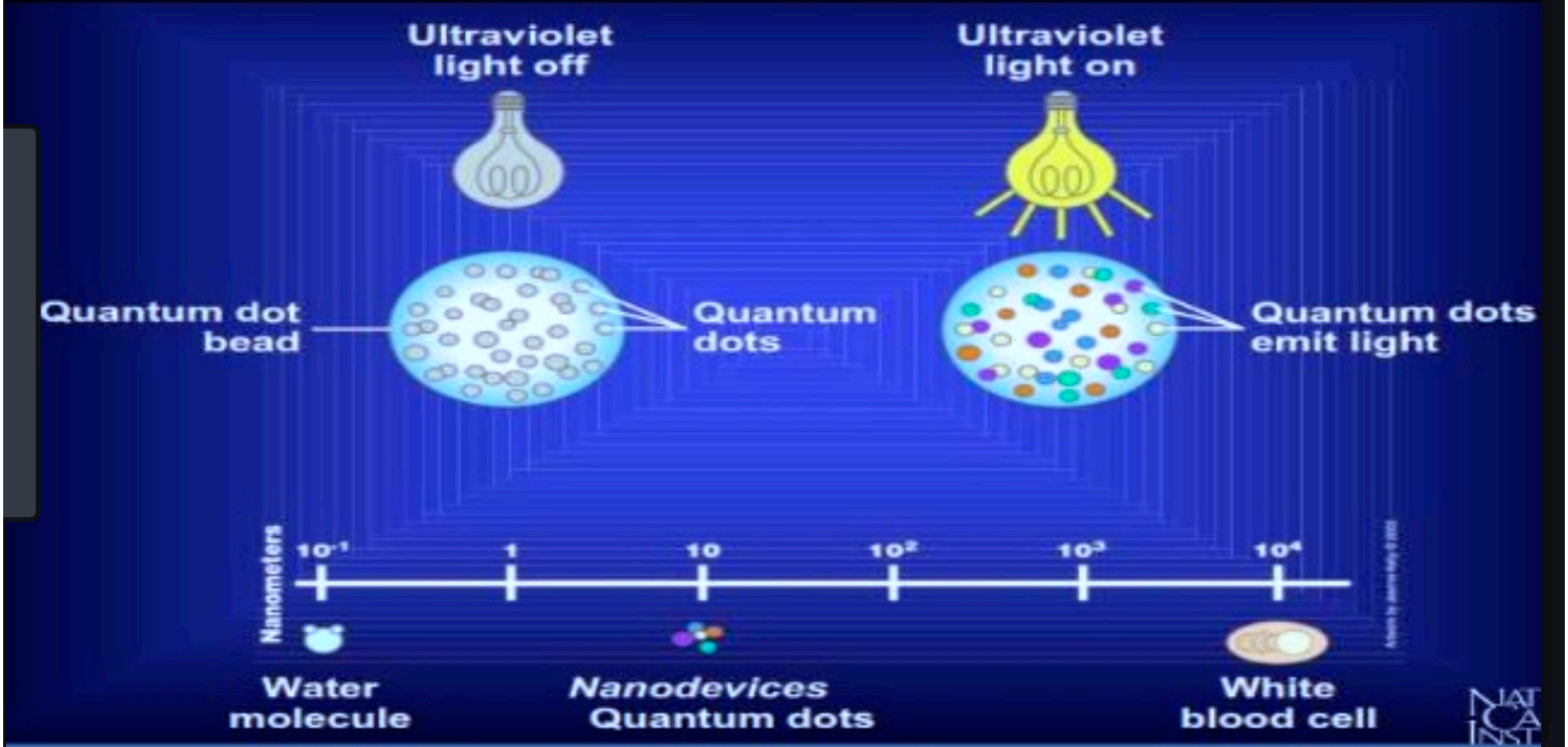
Voltage is applied to electrode C, which forces the ions to split into two pairs.

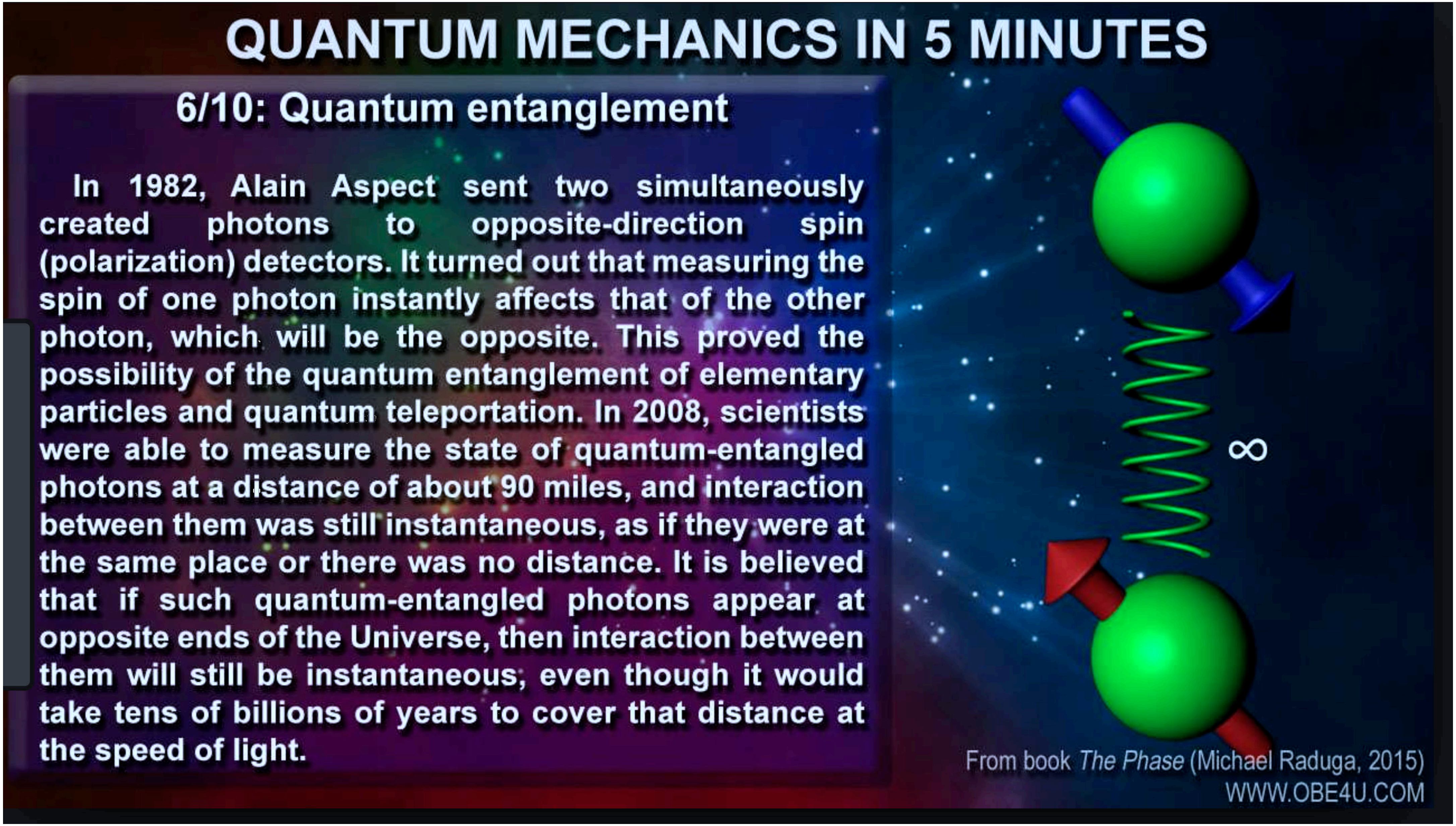
The magnesium ions are cooled by lasers. Through a process called "sympathetic cooling" the beryllium ions also slow down.

Using laser pulses the motion of the beryllium ion is entangled with the magnesium ion. Both ions moving in opposite directions towards each other and then away, with each pair moving in unison despite being separated.

Quantum Dots

Another minuscule molecule that will be used to detect cancer is a quantum dot. Quantum dots are tiny crystals that glow when they are stimulated by ultraviolet light.


Ultraviolet light off
Ultraviolet light on
Quantum dot bead
Quantum dots
Quantum dots emit light
Nanometers
10⁻¹
1
10
10²
10³
10⁴
Water molecule
Nanodevices
Quantum dots
White blood cell

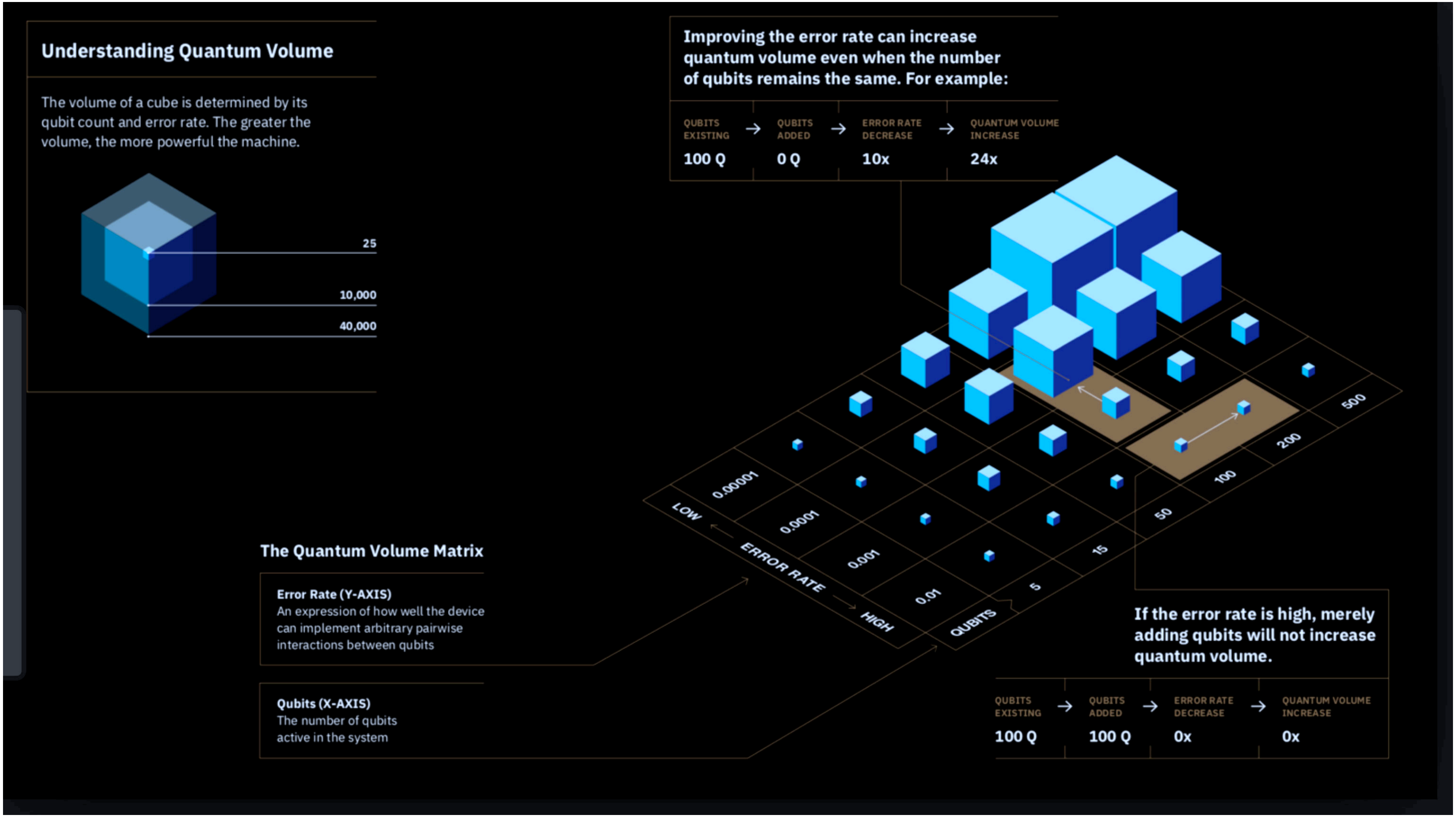


QUANTUM MECHANICS IN 5 MINUTES

6/10: Quantum entanglement

In 1982, Alain Aspect sent two simultaneously created photons to opposite-direction spin (polarization) detectors. It turned out that measuring the spin of one photon instantly affects that of the other photon, which will be the opposite. This proved the possibility of the quantum entanglement of elementary particles and quantum teleportation. In 2008, scientists were able to measure the state of quantum-entangled photons at a distance of about 90 miles, and interaction between them was still instantaneous, as if they were at the same place or there was no distance. It is believed that if such quantum-entangled photons appear at opposite ends of the Universe, then interaction between them will still be instantaneous, even though it would take tens of billions of years to cover that distance at the speed of light.

From book *The Phase* (Michael Raduga, 2015)
WWW.OBE4U.COM



Understanding Quantum Volume

The volume of a cube is determined by its qubit count and error rate. The greater the volume, the more powerful the machine.

Improving the error rate can increase quantum volume even when the number of qubits remains the same. For example:

QUBITS EXISTING	→	QUBITS ADDED	→	ERROR RATE DECREASE	→	QUANTUM VOLUME INCREASE
100 Q		0 Q		10x		24x

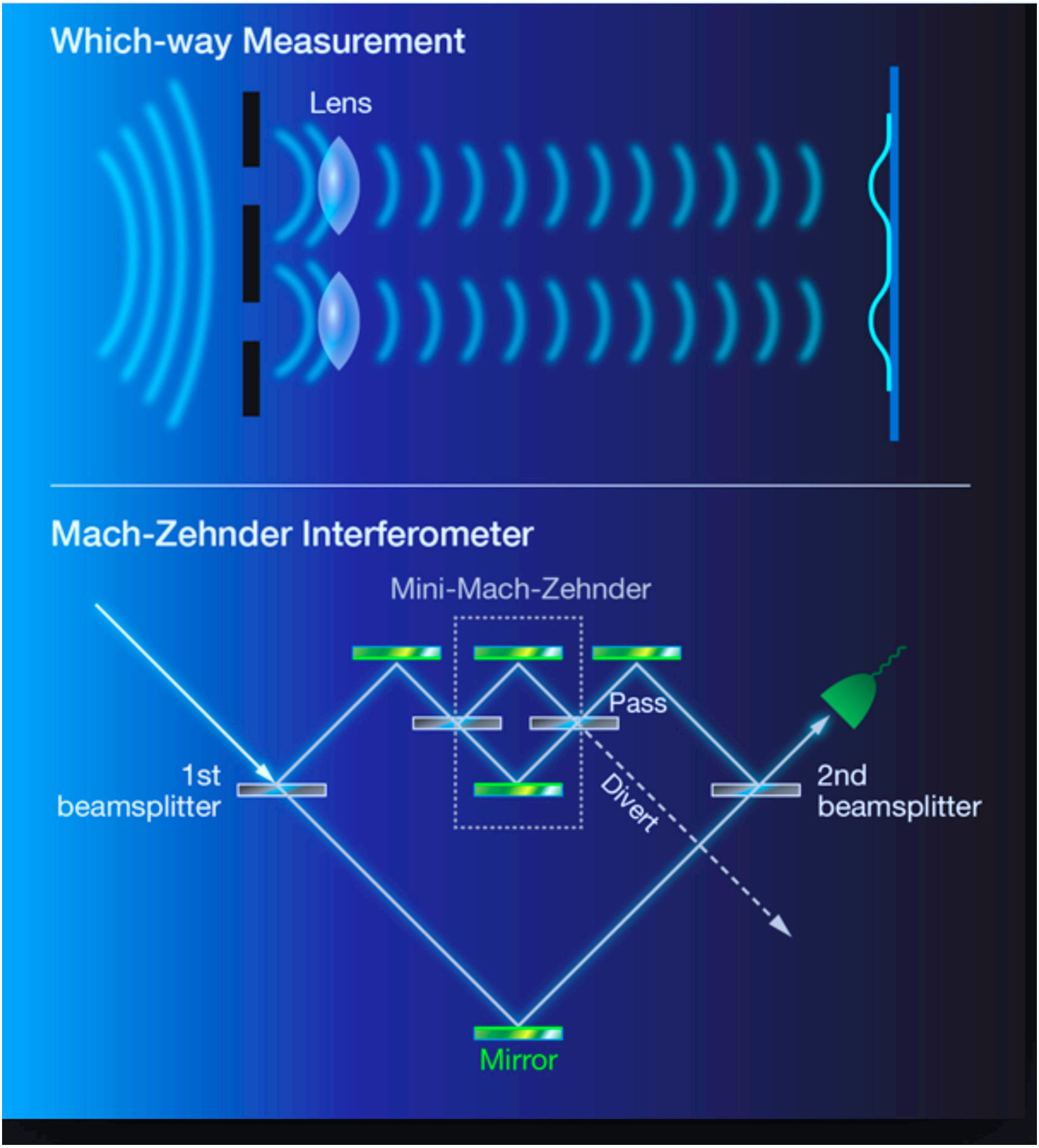
The Quantum Volume Matrix

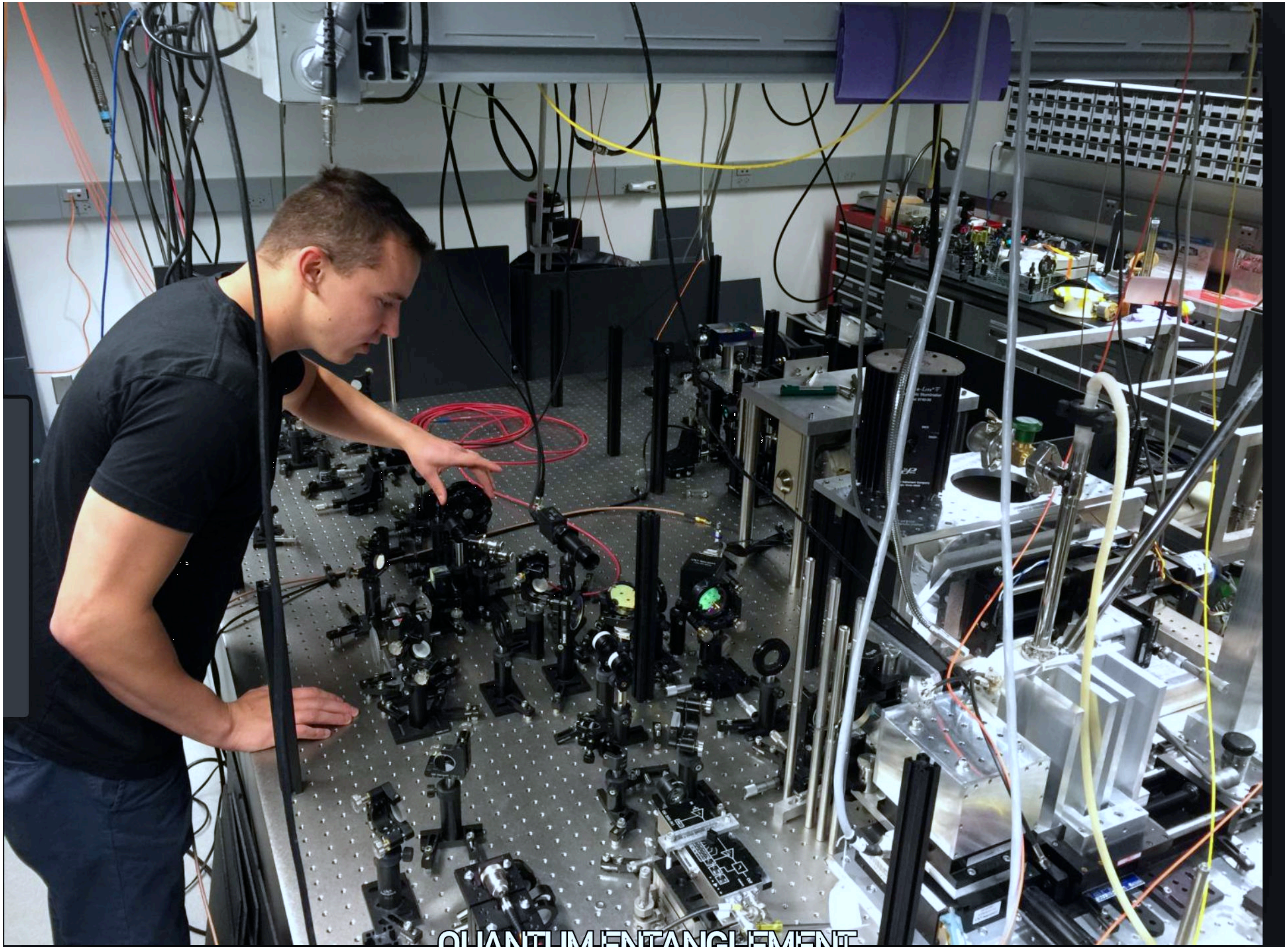
Error Rate (Y-AXIS)
An expression of how well the device can implement arbitrary pairwise interactions between qubits

Qubits (X-AXIS)
The number of qubits active in the system

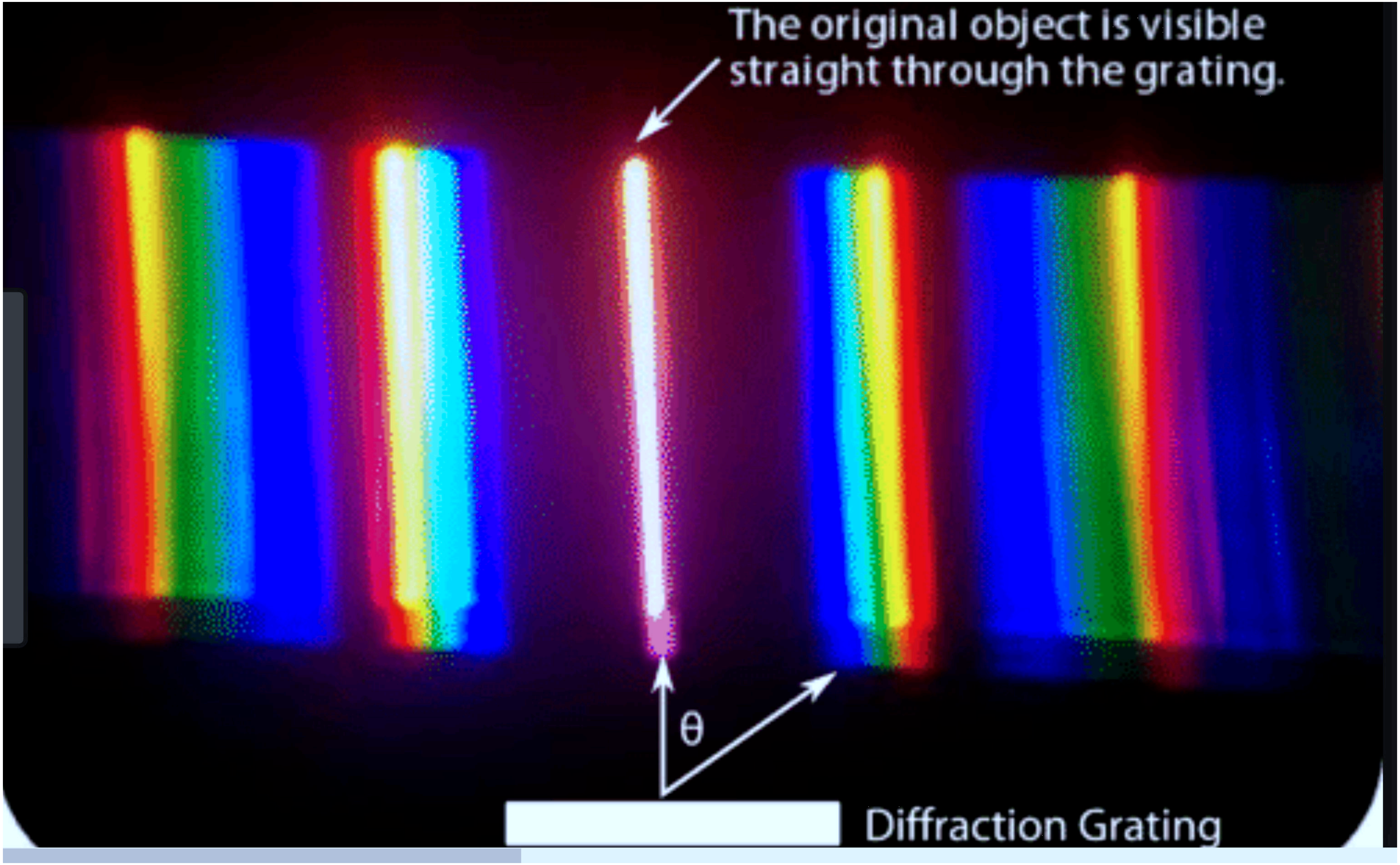
If the error rate is high, merely adding qubits will not increase quantum volume.

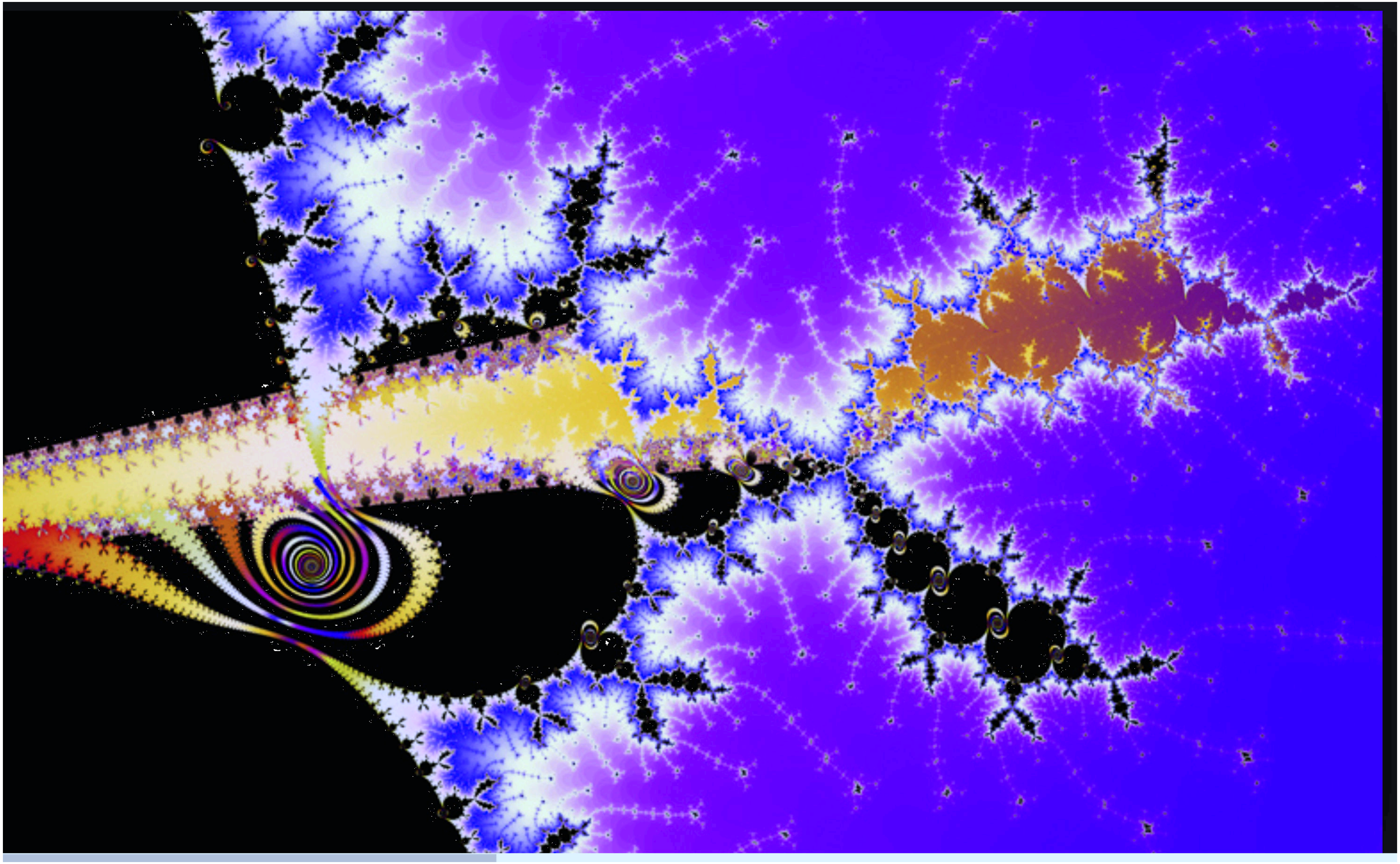
QUBITS EXISTING	→	QUBITS ADDED	→	ERROR RATE DECREASE	→	QUANTUM VOLUME INCREASE
100 Q		100 Q		0x		0x

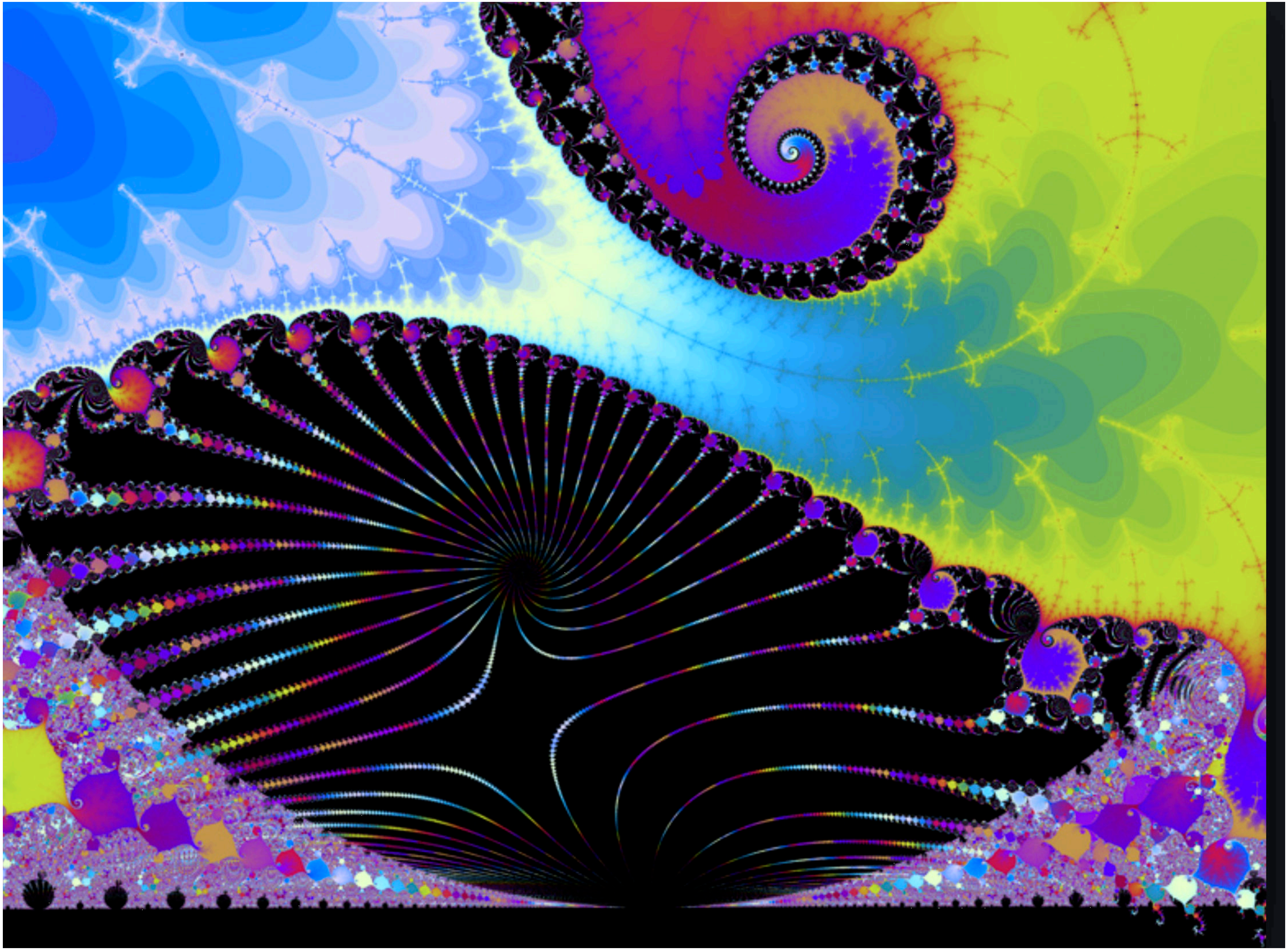

Which-way Measurement
Lens
Mach-Zehnder Interferometer
Mini-Mach-Zehnder
Pass
Divert
1st beamsplitter
2nd beamsplitter
Mirror

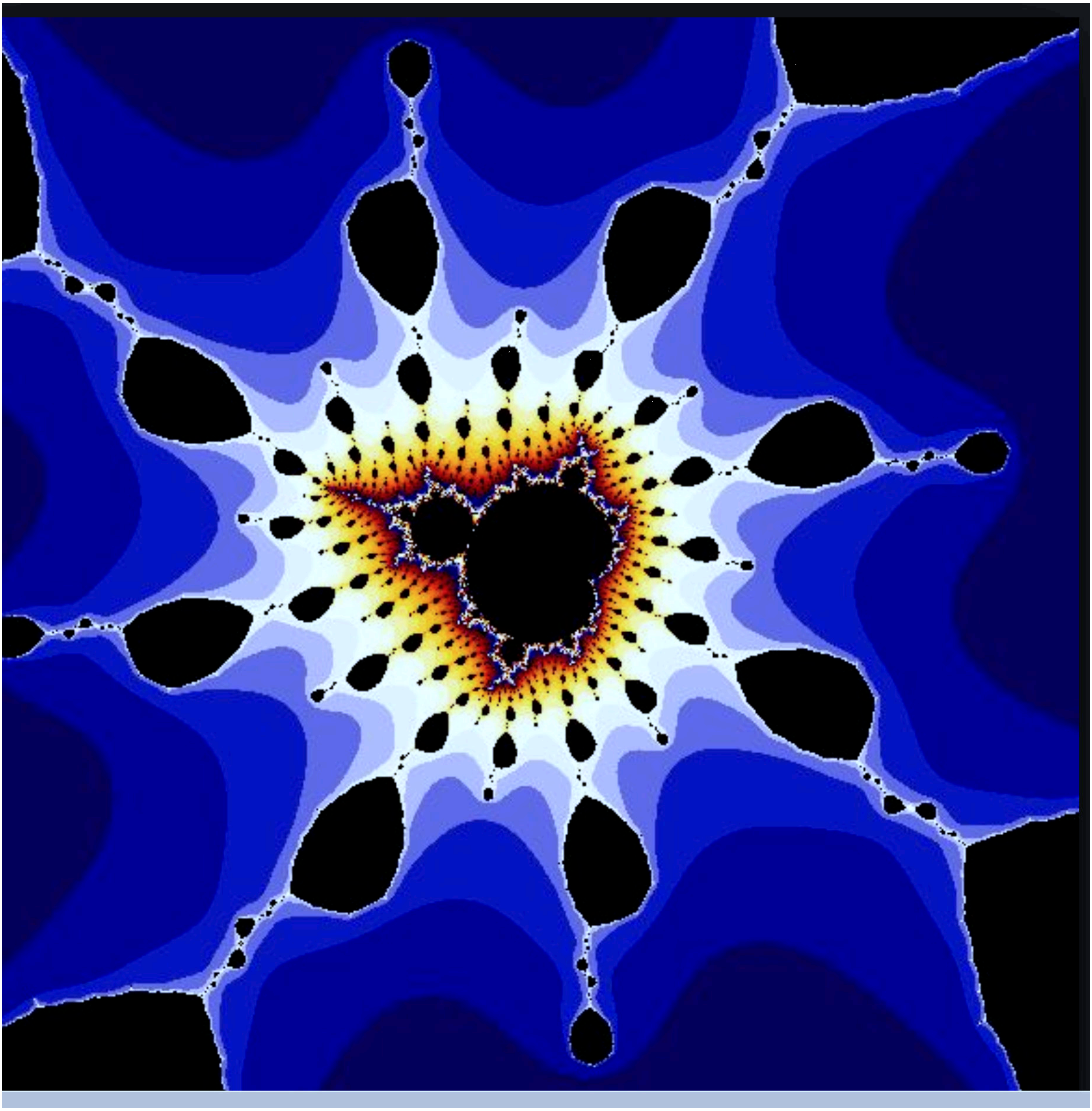


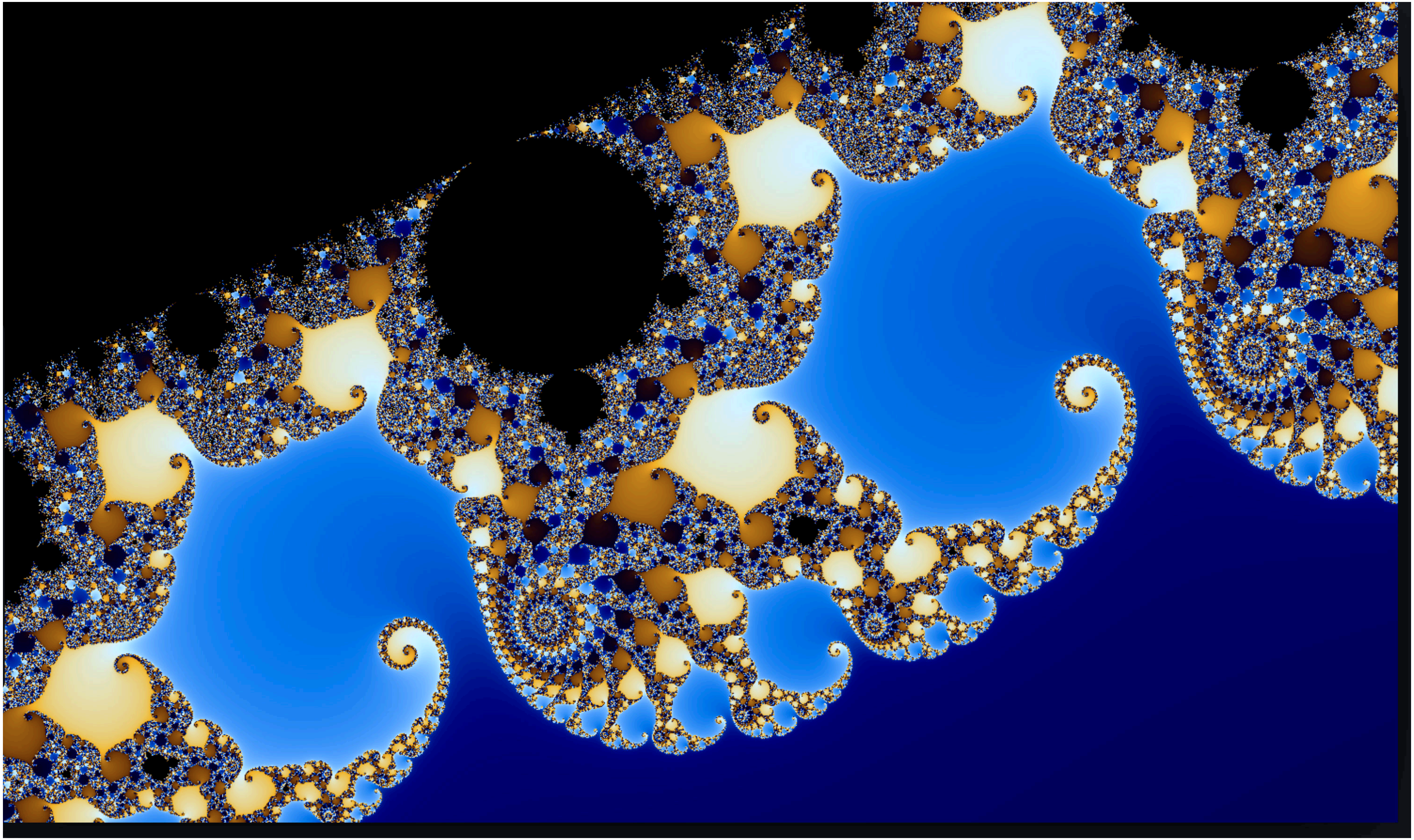
QUANTUM ENTANGLEMENT

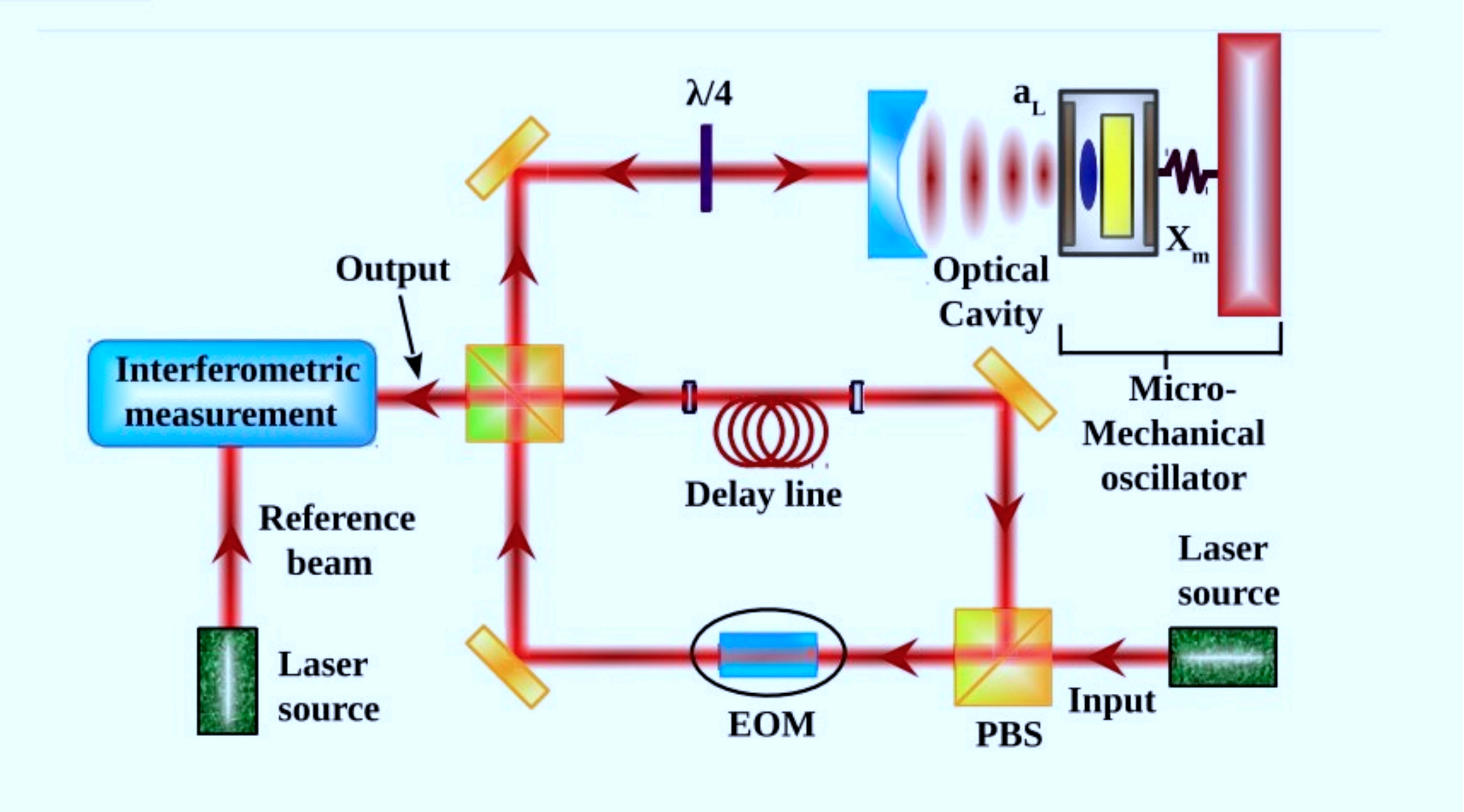

The original object is visible straight through the grating.
θ
Diffraction Grating

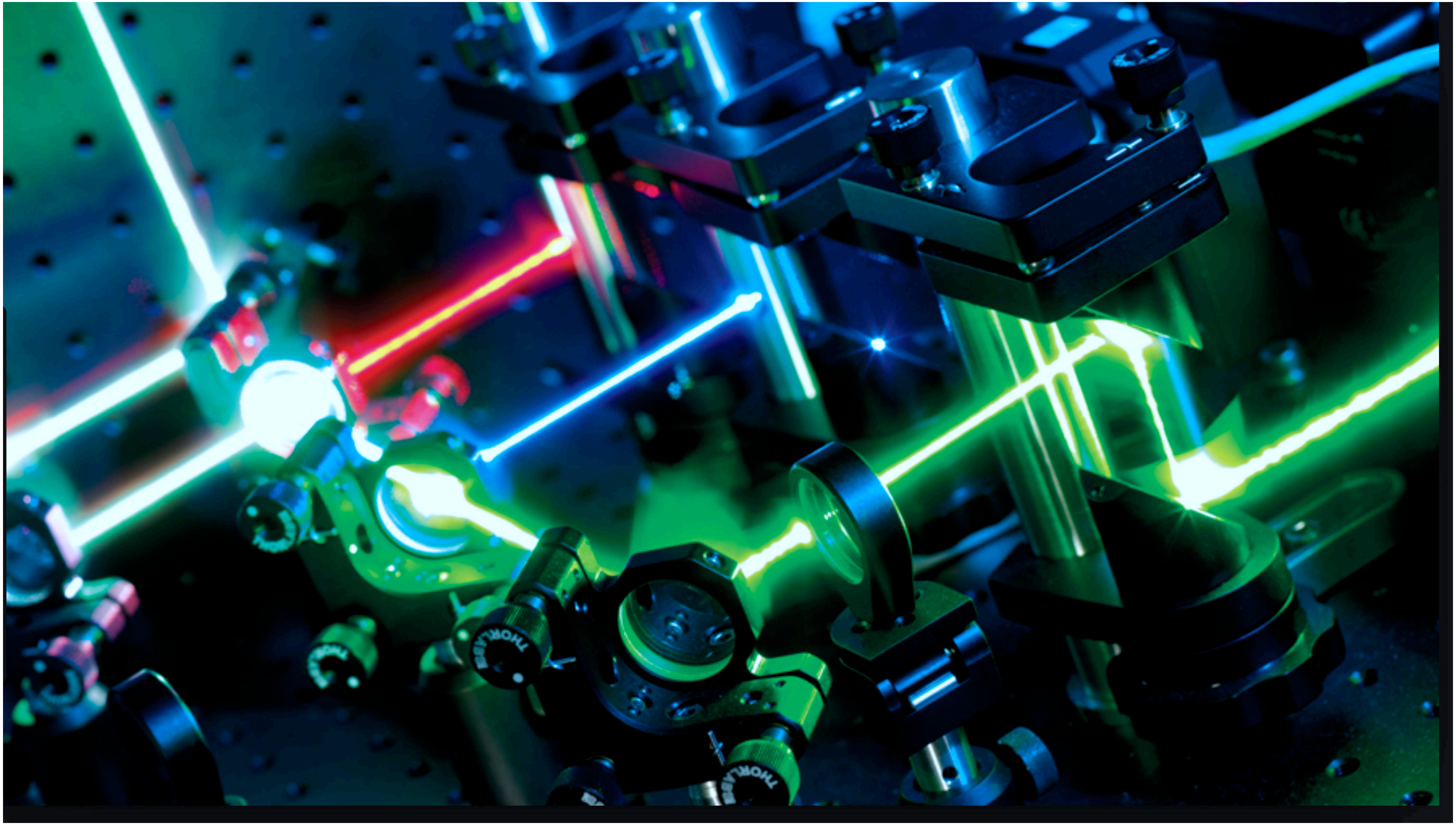


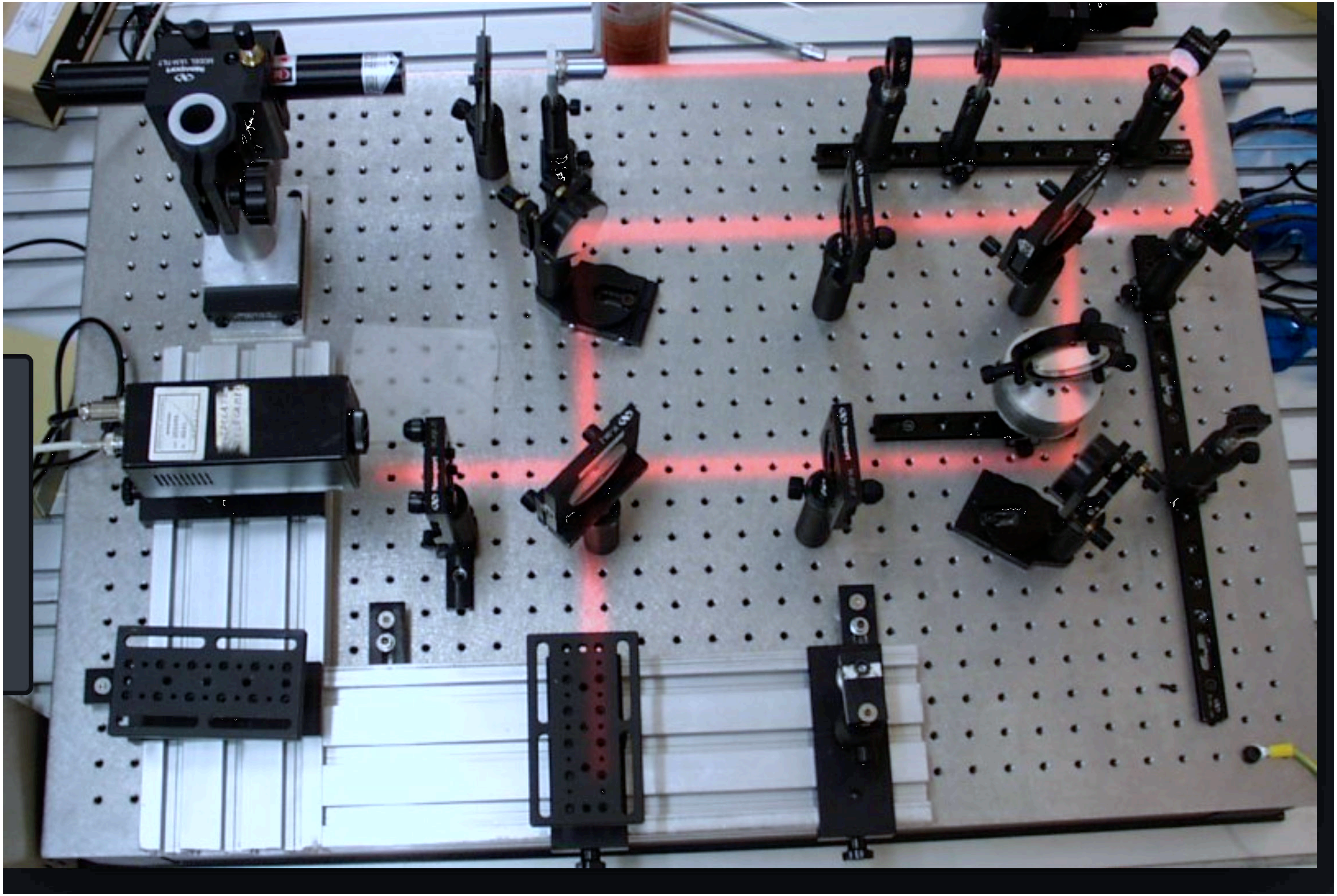


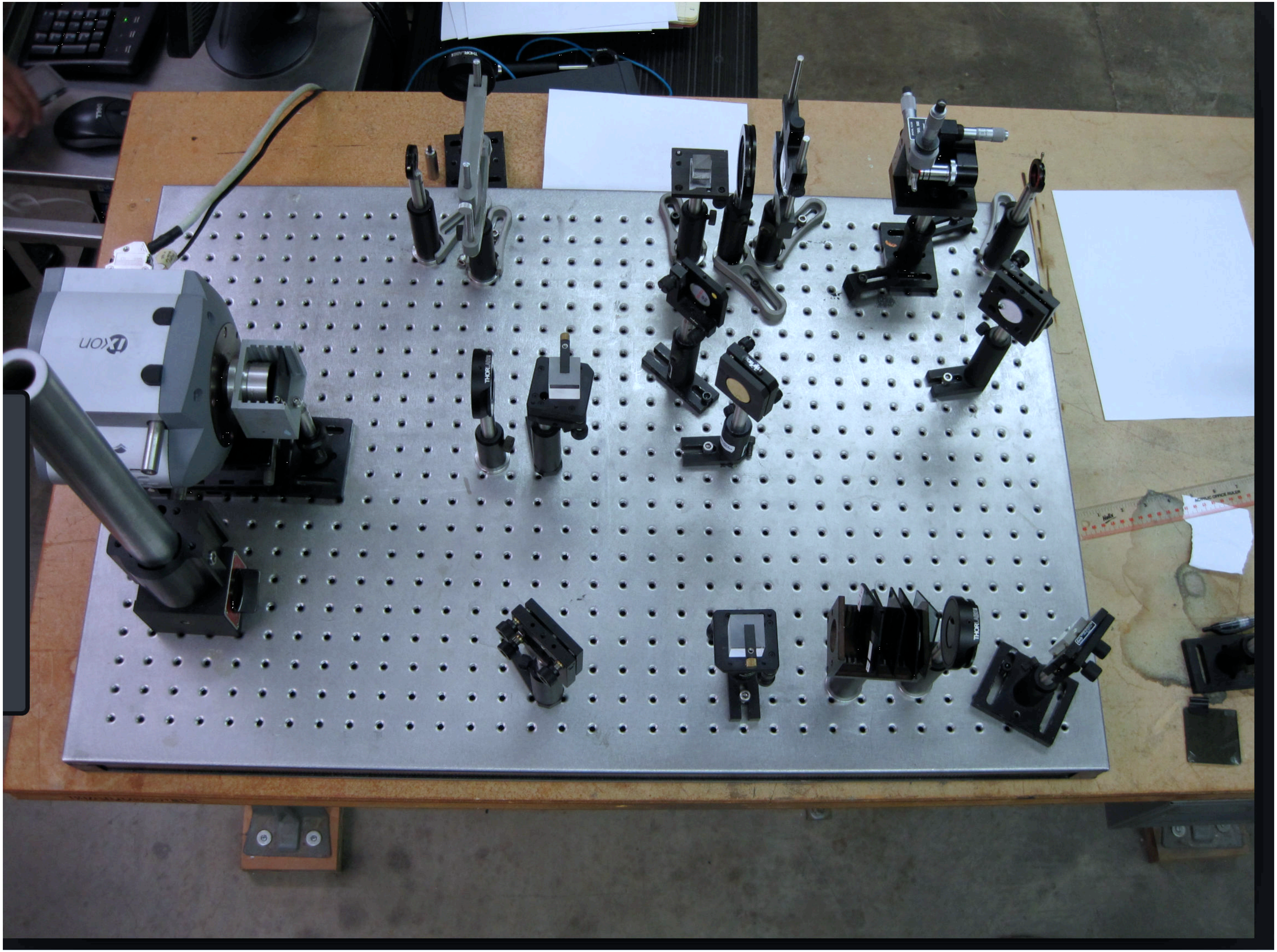


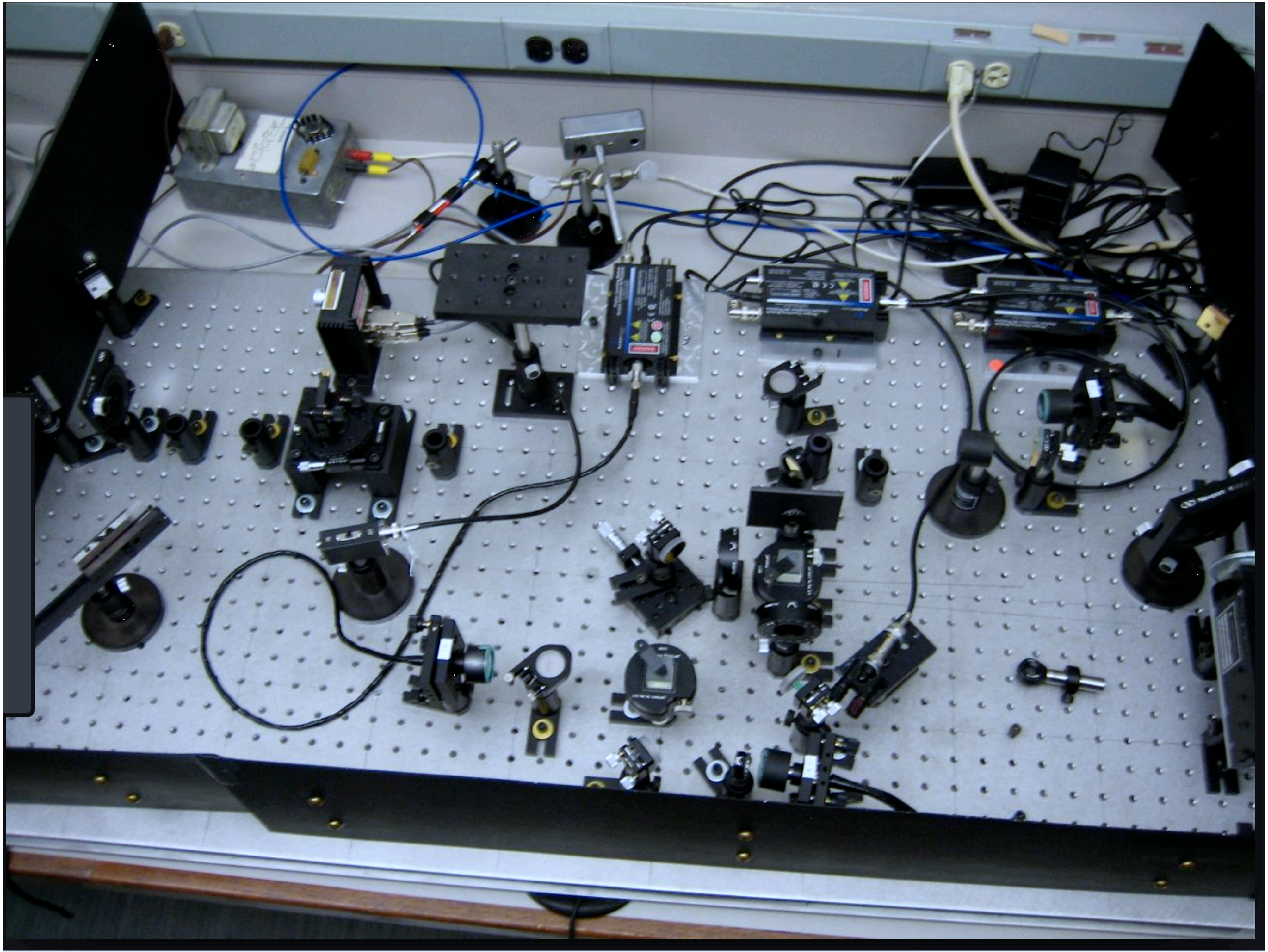


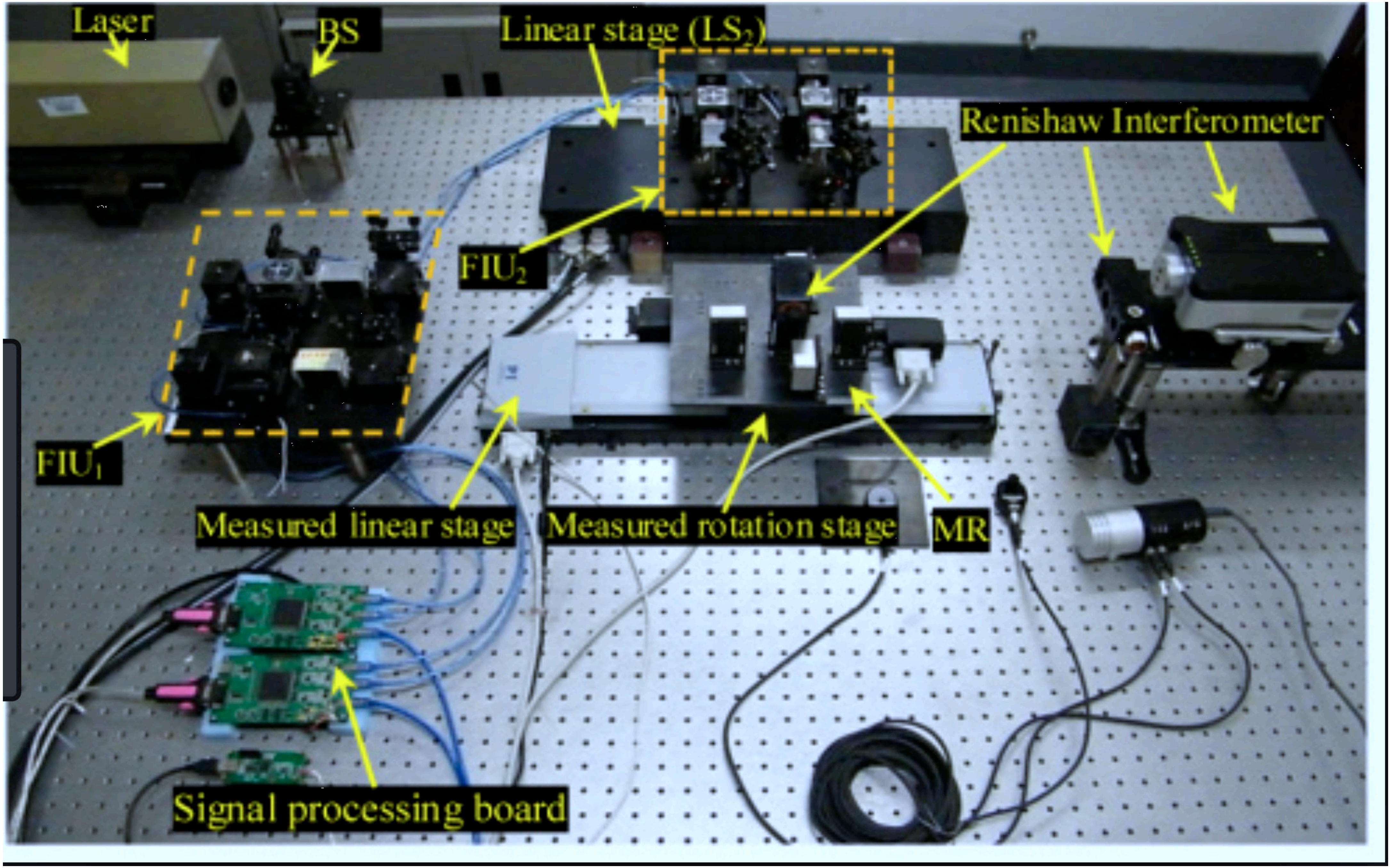

λ/4
a_L
X_m
Output
Optical Cavity
Interferometric measurement
Delay line
Micro-Mechanical oscillator
Reference beam
Laser source
Laser source
Input
Laser source
EOM
PBS

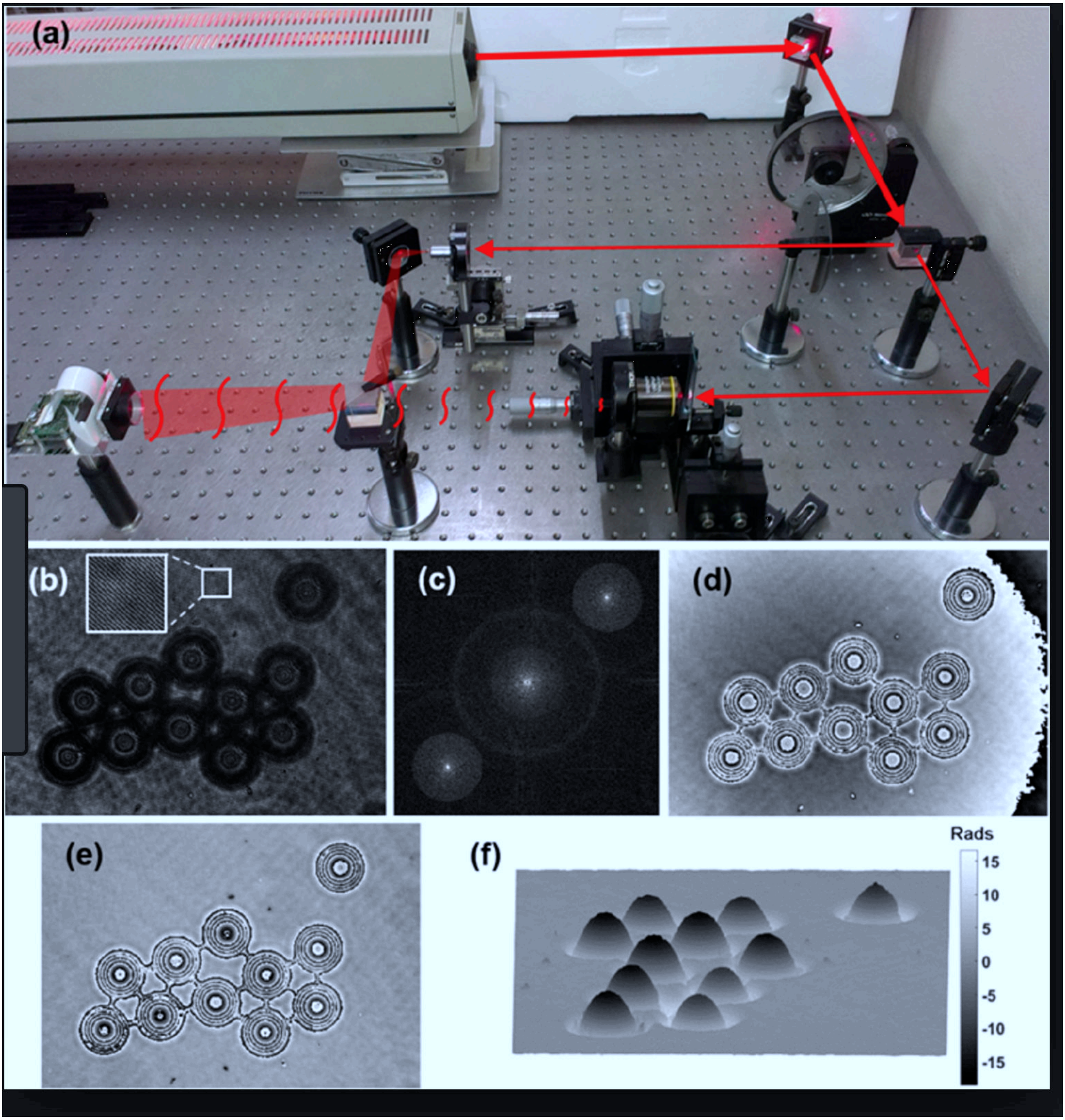

THORLABS
THORLABS
THORLABS
THORLABS

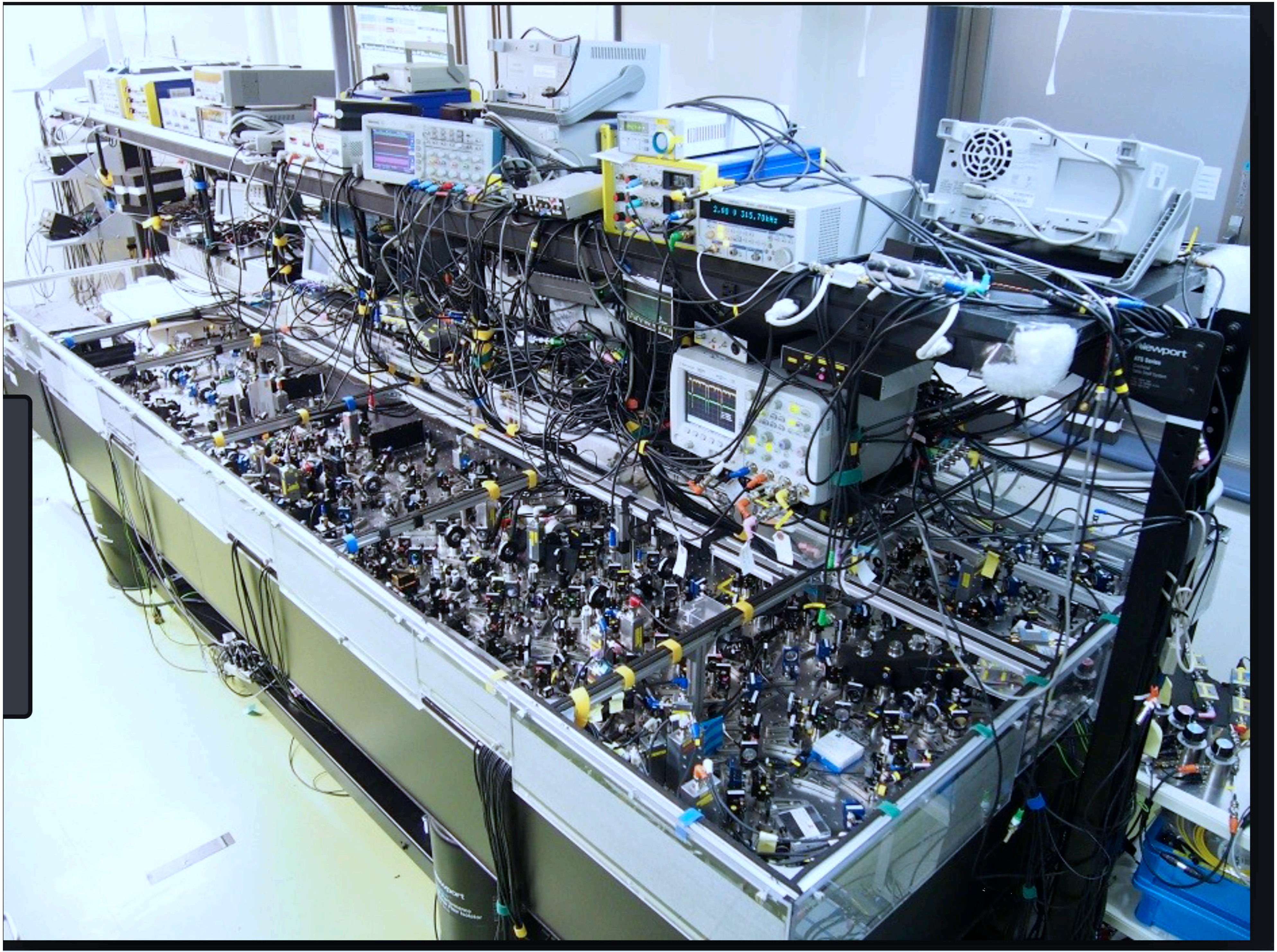


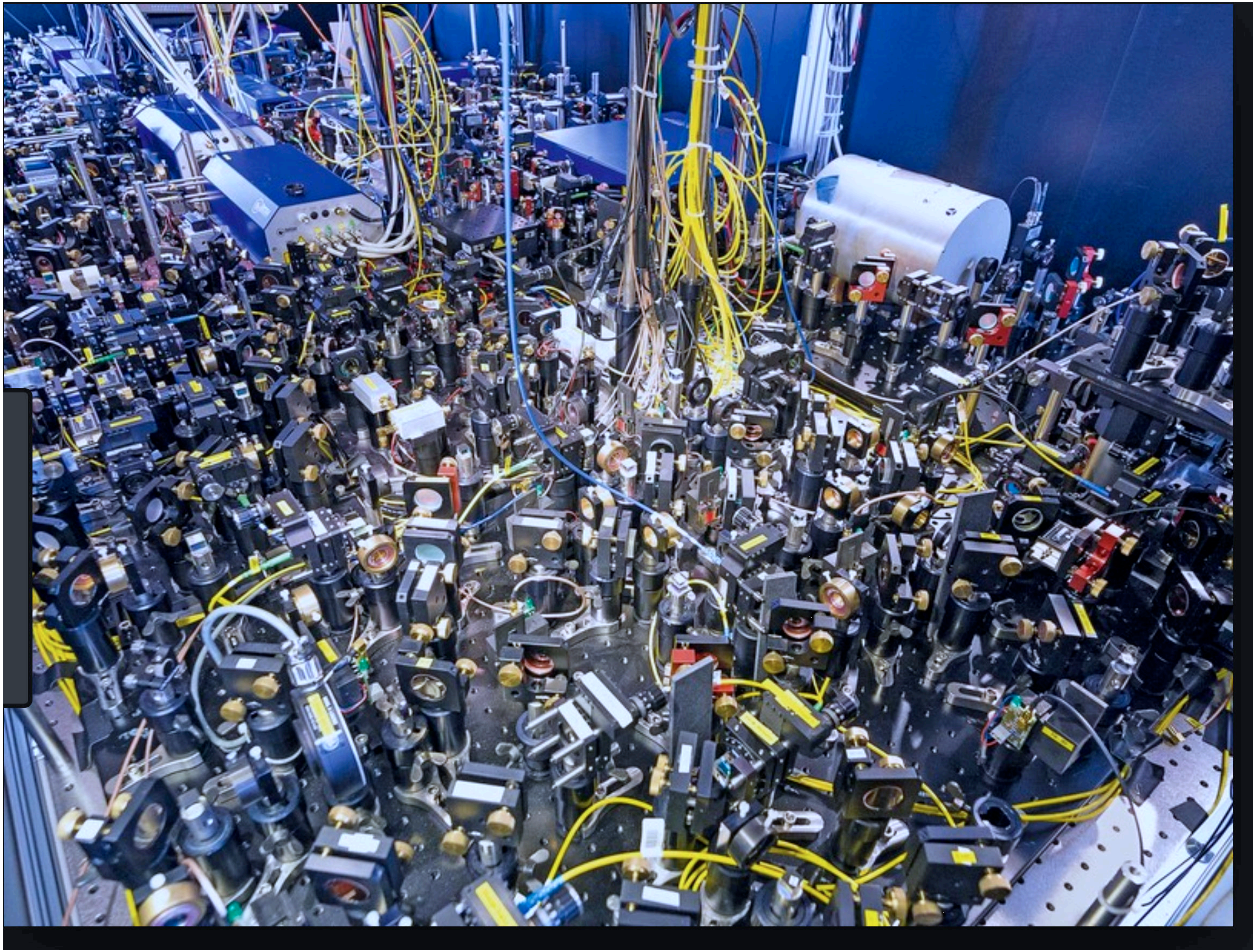

iXon

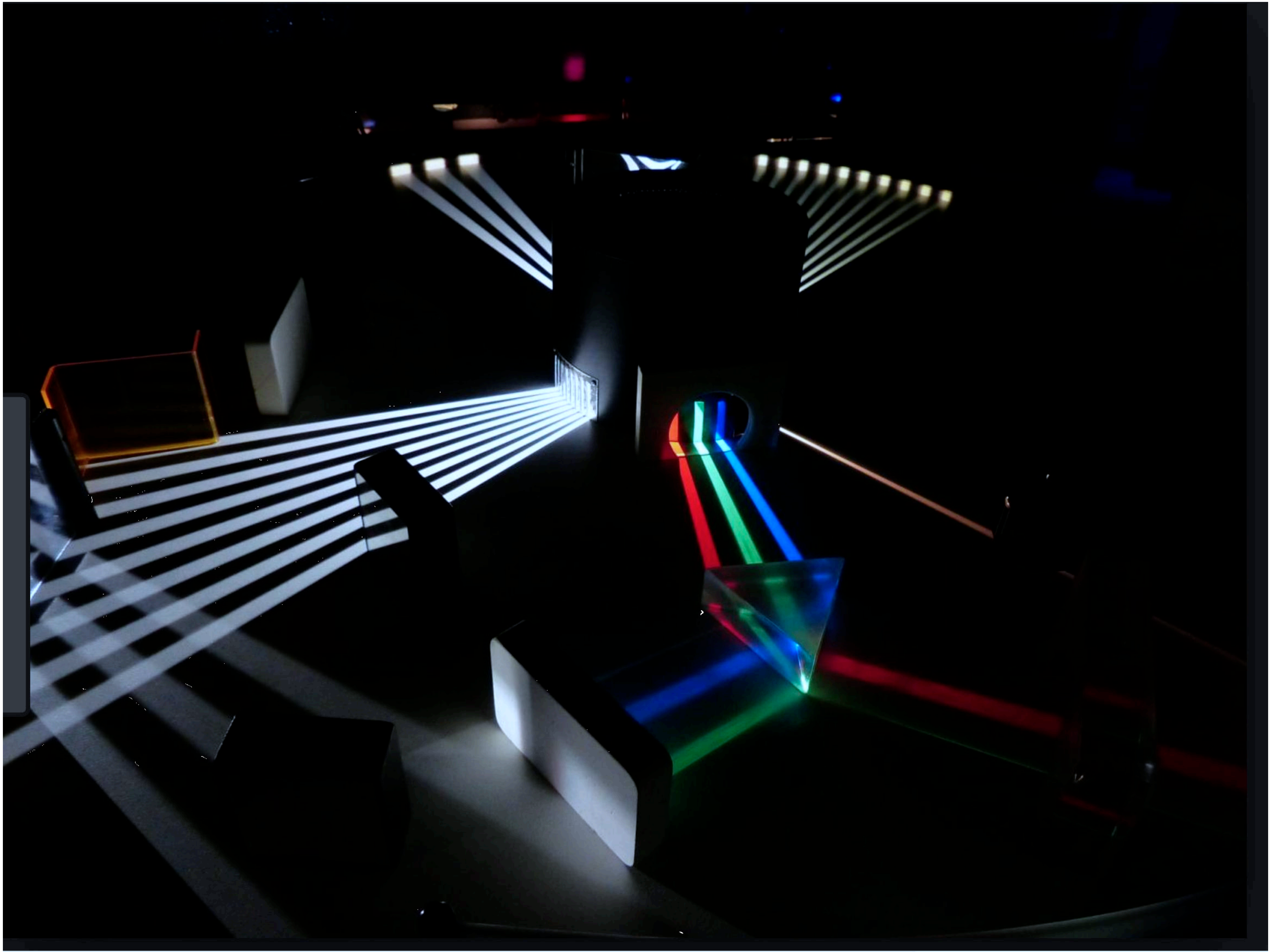


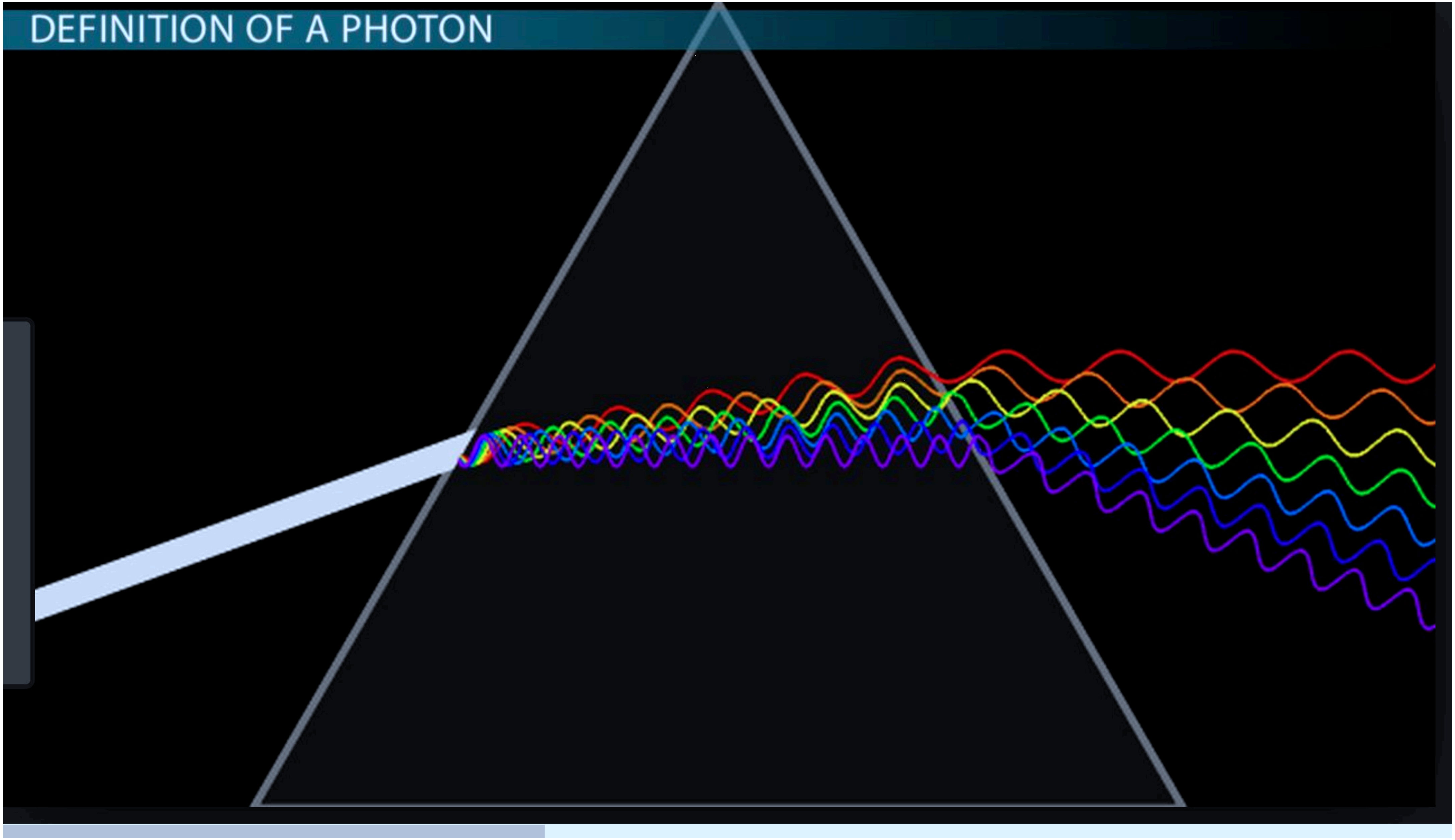

Laser
BS
Linear stage (LS_2)
Renishaw Interferometer
FIU_2
FIU_1
Measured linear stage
Measured rotation stage
MR
Signal processing board


(a)
(b)
(c)
(d)
(e)
(f)
Rads
15
10
5
0
-5
-10
-15

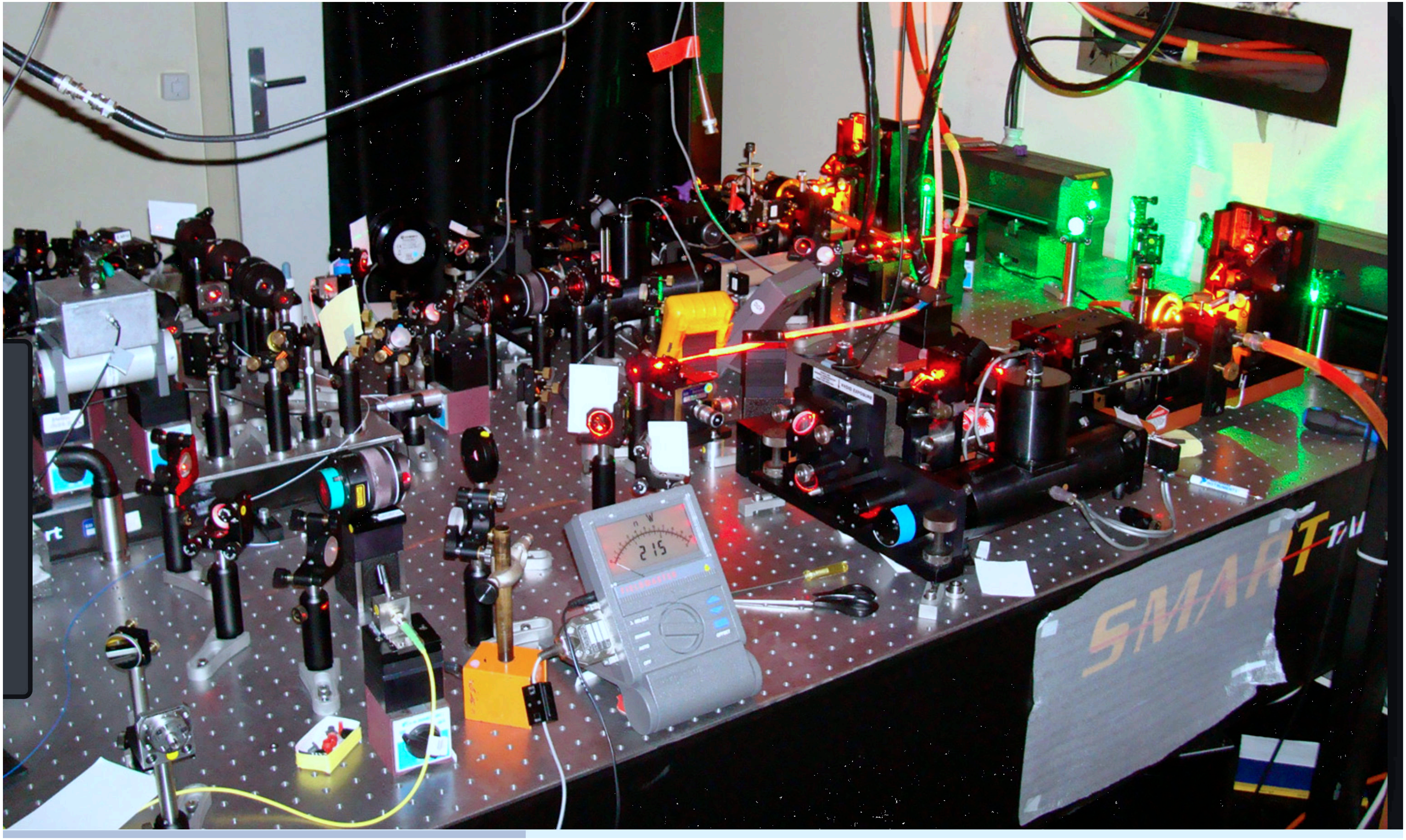

2.60 0 315.79kHz
Newport

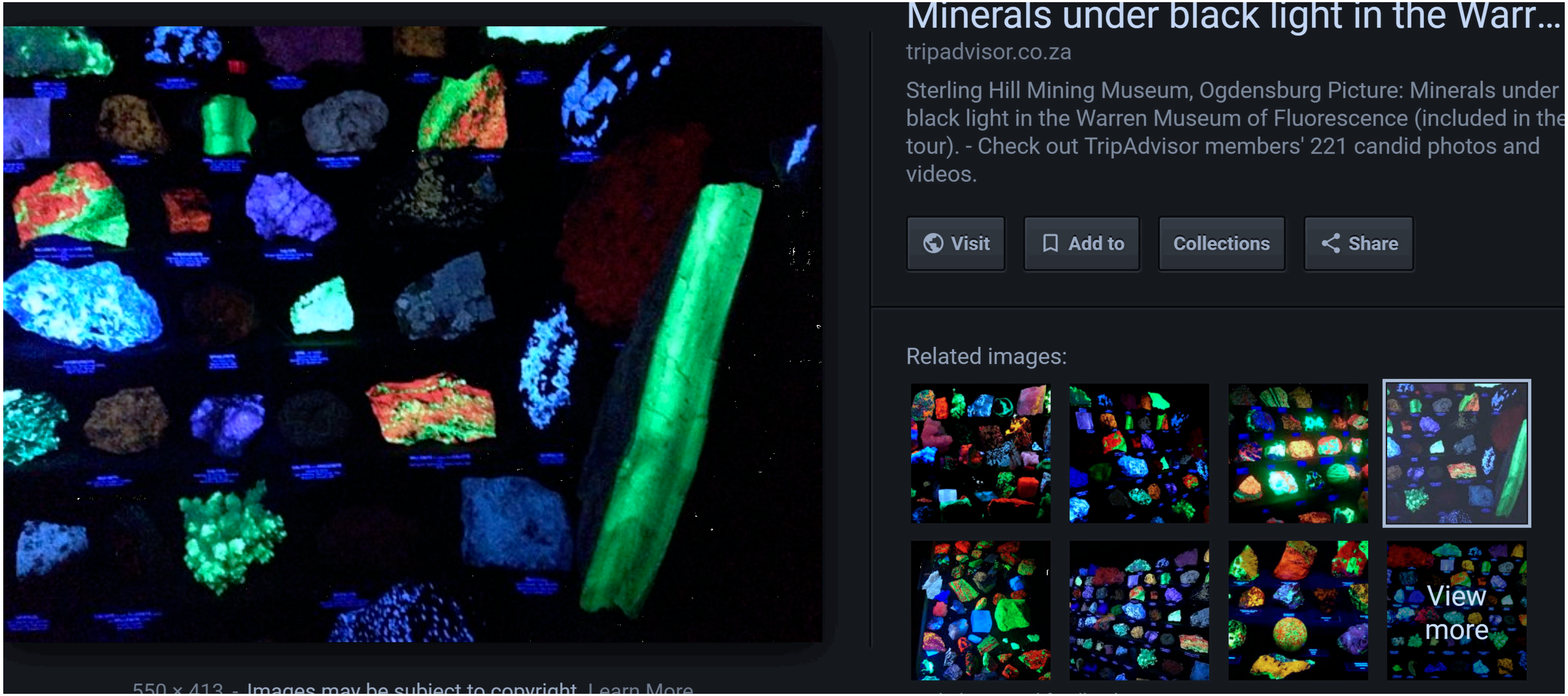






DEFINITION OF A PHOTON


W
215
SMART



Minerals under black light in the Warr…

tripadvisor.co.za

Sterling Hill Mining Museum, Ogdensburg Picture: Minerals under black light in the Warren Museum of Fluorescence (included in the tour). - Check out TripAdvisor members' 221 candid photos and videos.

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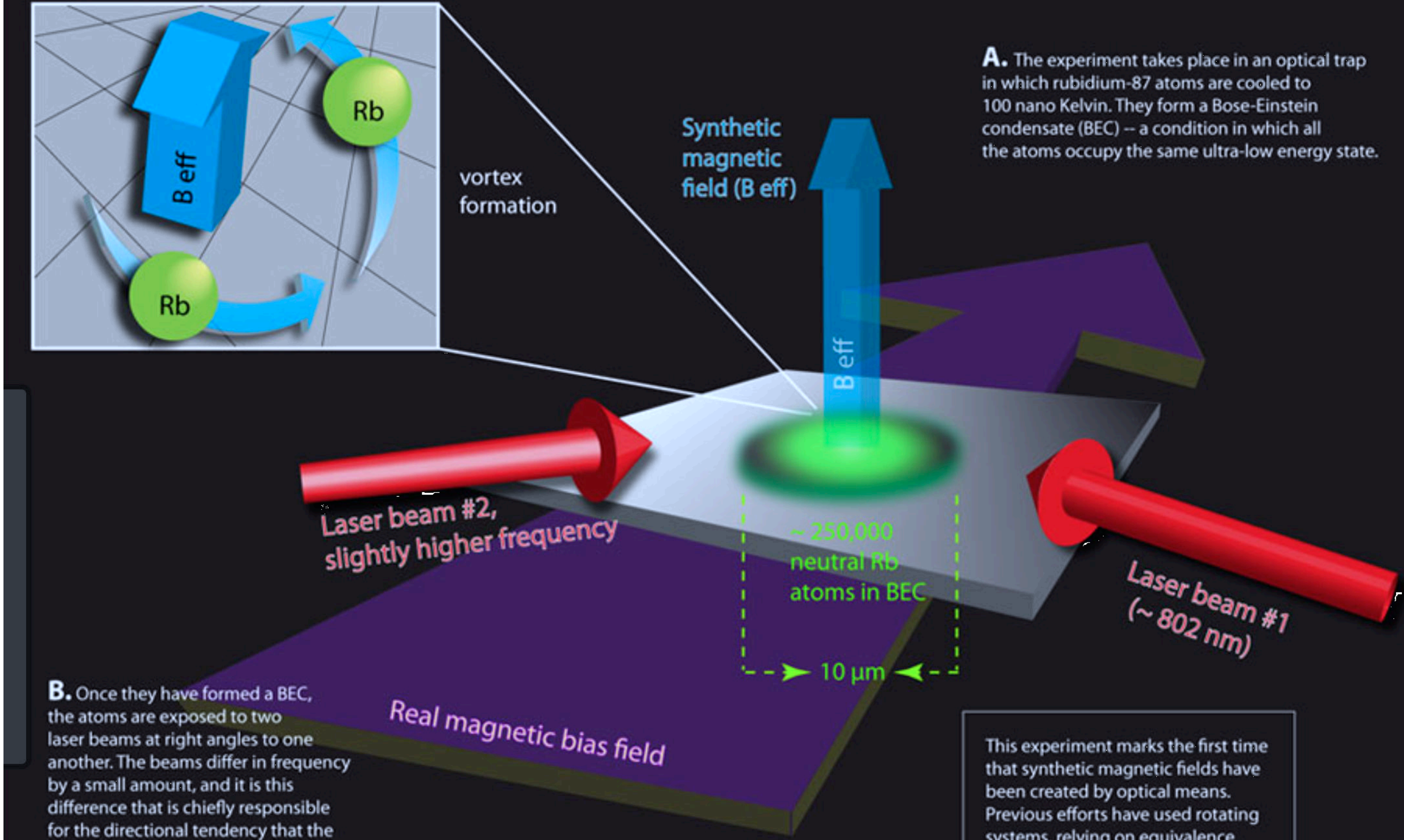
Figure 1: Inside the Trap

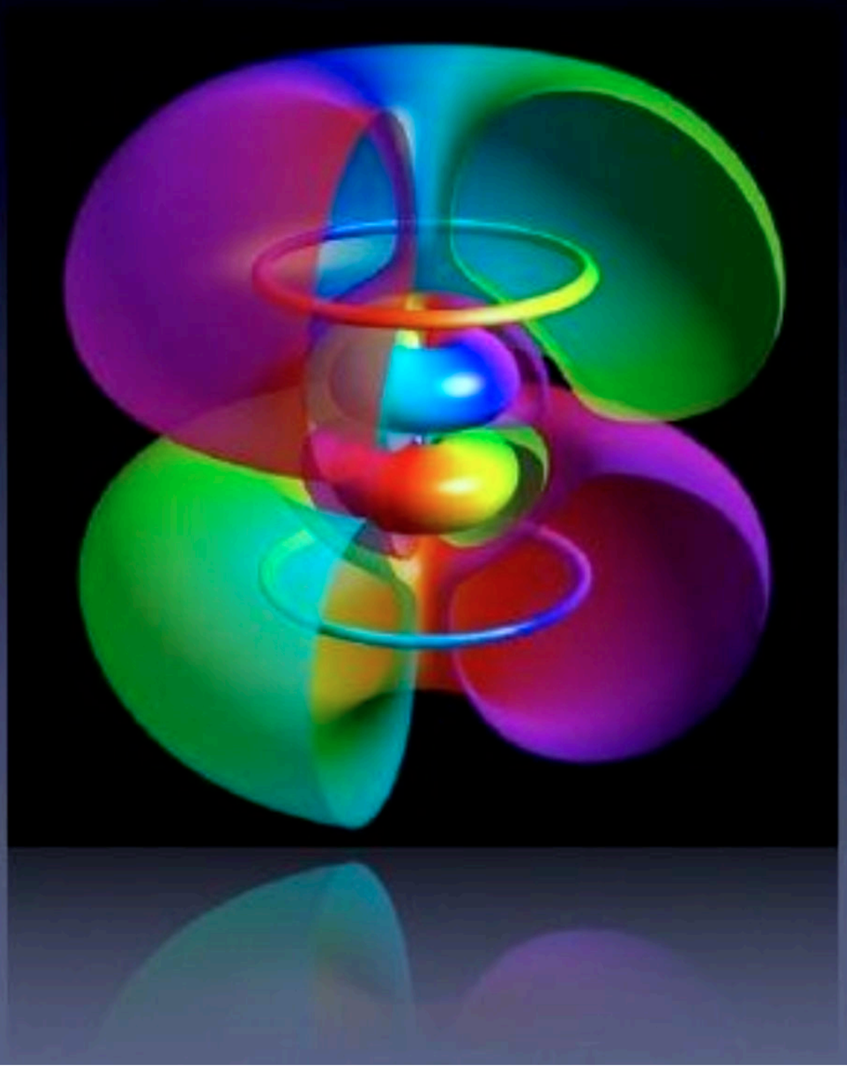
A. The experiment takes place in an optical trap in which rubidium-87 atoms are cooled to 100 nano Kelvin. They form a Bose-Einstein condensate (BEC) -- a condition in which all the atoms occupy the same ultra-low energy state.


B eff
Rb
Rb
vortex formation
Synthetic magnetic field (B eff)
B eff
Laser beam #2, slightly higher frequency
~ 250,000 neutral Rb atoms in BEC
10 µm
Laser beam #1 (~ 802 nm)
Real magnetic bias field

B. Once they have formed a BEC, the atoms are exposed to two laser beams at right angles to one another. The beams differ in frequency by a small amount, and it is this difference that is chiefly responsible for the directional tendency that the atoms "feel." Combined with the gradient bias magnetic field, this is equivalent to the action of the Lorentz force on charged particles.

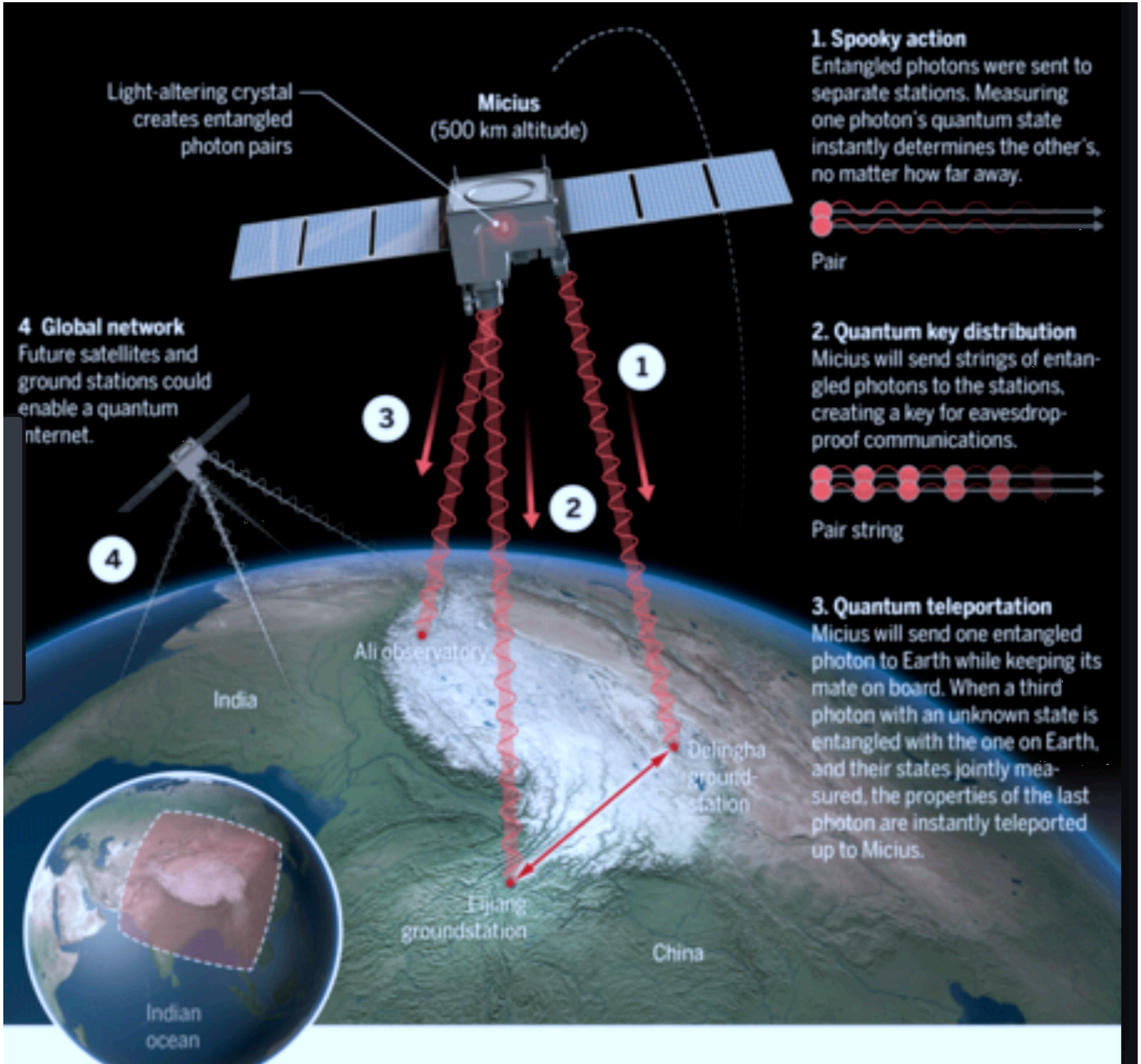
This experiment marks the first time that synthetic magnetic fields have been created by optical means. Previous efforts have used rotating systems, relying on equivalence between the Lorentz force and the Coriolis force.

Quantum Mechanical Model



- The quantum mechanical model is the most advanced and accurate model of the atom, used today by chemists and physicists

- In this model, electrons do not exist as tiny points inside the atom, but instead surround the nucleus in a form resembling a cloud


Light-altering crystal creates entangled photon pairs
Micius
(500 km altitude)
1
2
3
4
Pair
Pair string
Ali observatory
India
Delingha ground-station
Lijiang groundstation
China
Indian ocean

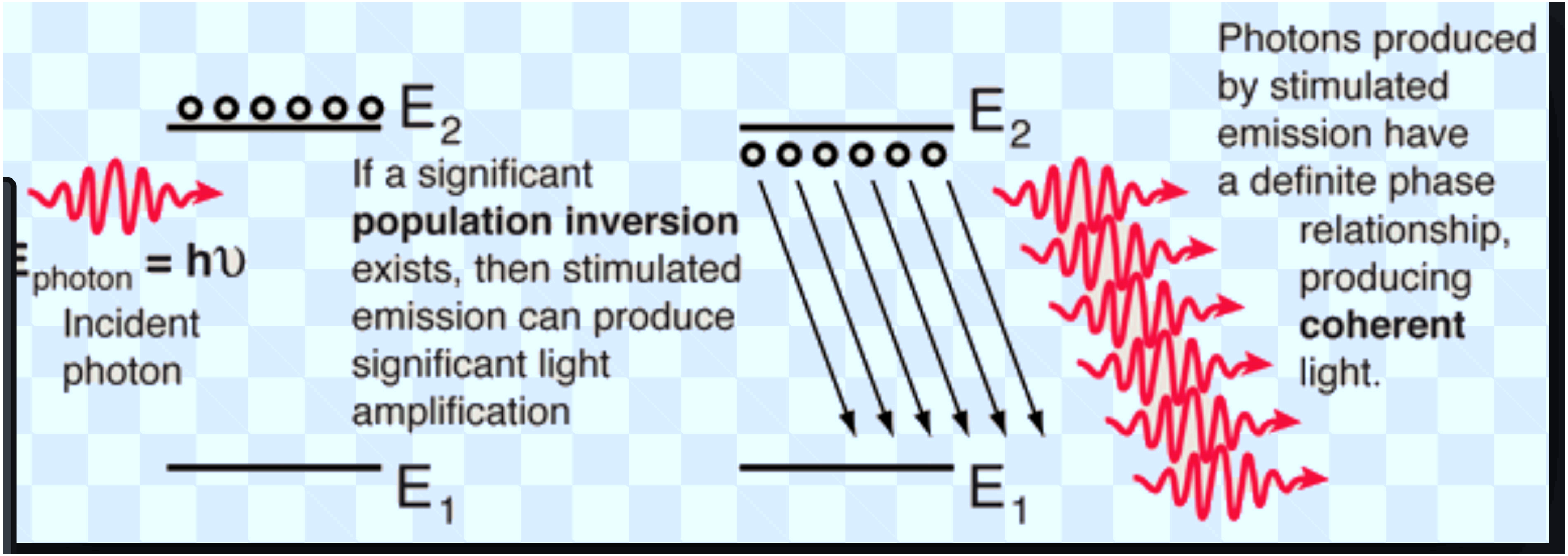
1. Spooky action
Entangled photons were sent to separate stations. Measuring one photon's quantum state instantly determines the other's, no matter how far away.

2. Quantum key distribution
Micius will send strings of entangled photons to the stations, creating a key for eavesdrop-proof communications.

3. Quantum teleportation
Micius will send one entangled photon to Earth while keeping its mate on board. When a third photon with an unknown state is entangled with the one on Earth, and their states jointly measured, the properties of the last photon are instantly teleported up to Micius.

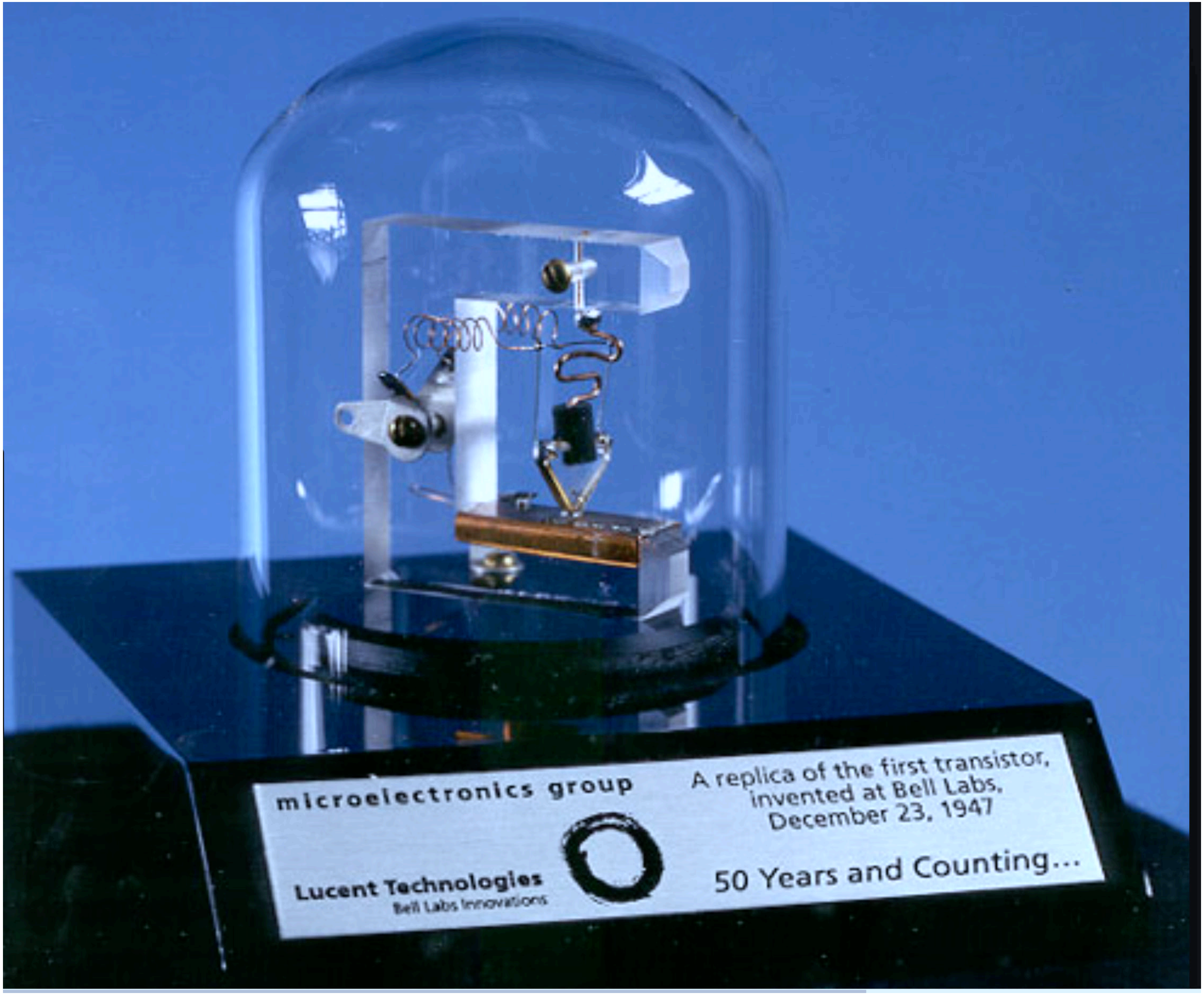
4 Global network
Future satellites and ground stations could enable a quantum nternet.

QUANTUM SATELLITE


E_2
$E_{photon} = h\upsilon$
Incident photon
E_1
E_2
E_1

If a significant **population inversion** exists, then stimulated emission can produce significant light amplification

Photons produced by stimulated emission have a definite phase relationship, producing **coherent** light.


microelectronics group
Lucent Technologies
Bell Labs Innovations
A replica of the first transistor,
invented at Bell Labs,
December 23, 1947
50 Years and Counting...

Human

Choice

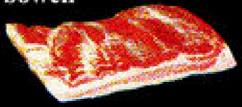
Cuts

1. BRAIN

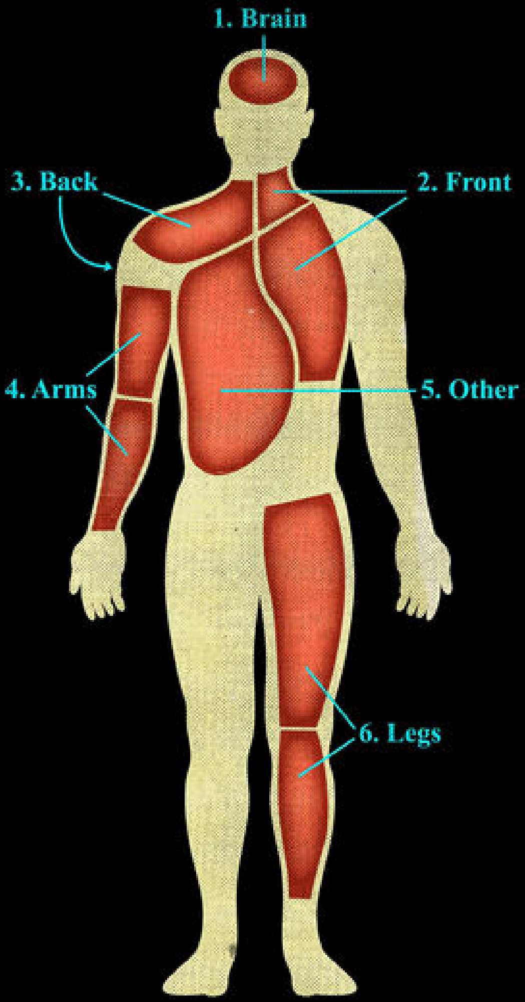
Don't Eat - although the brain seems fatty and tasty, it's no good, gives you CJD (Creutzfeldt–Jakob disease) - basically kills your brain cells. Unless you want to inherit the aura of your meal, steer clear.

2. FRONT

Eye Fillet - best cut, non-working muscle, sits on the bowell

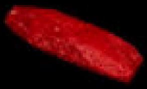


Ribs (Spare Ribs) good eating - BBQ



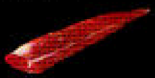
3. BACK

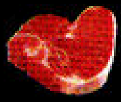
Neck – diced, hungarian goulash



Shoulder – Blade Steak (slow cook, needs some work to make tender)

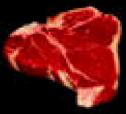
Strip down the middle of the back (loin) all BBQ steaks

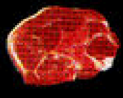




Middle of Loin middle is the rib fillet or scotch fillet (good eating)

Lower Loin porterhouse steak or T-bone (good eating)



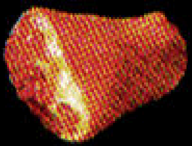


Lower back on either side of Loin muscles - Rump

4. ARMS

Fore Arm – tough meat – soup

Upper Arm – slow cook, like lamb shanks



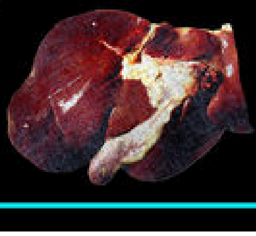
5. OTHER

Lungs full of iron

Skin you can leave on – crackling (need to shave the hair off though)

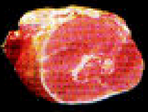
Nervous System – carbohydrates rich

Liver – Don't Eat - Because we give our livers a good bash, they are full of Vitimin A - too much Vit A is toxic and can fuck you up - pretty much weakening your body, making you throw up, general body and head pains



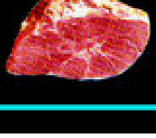
6. LEGS

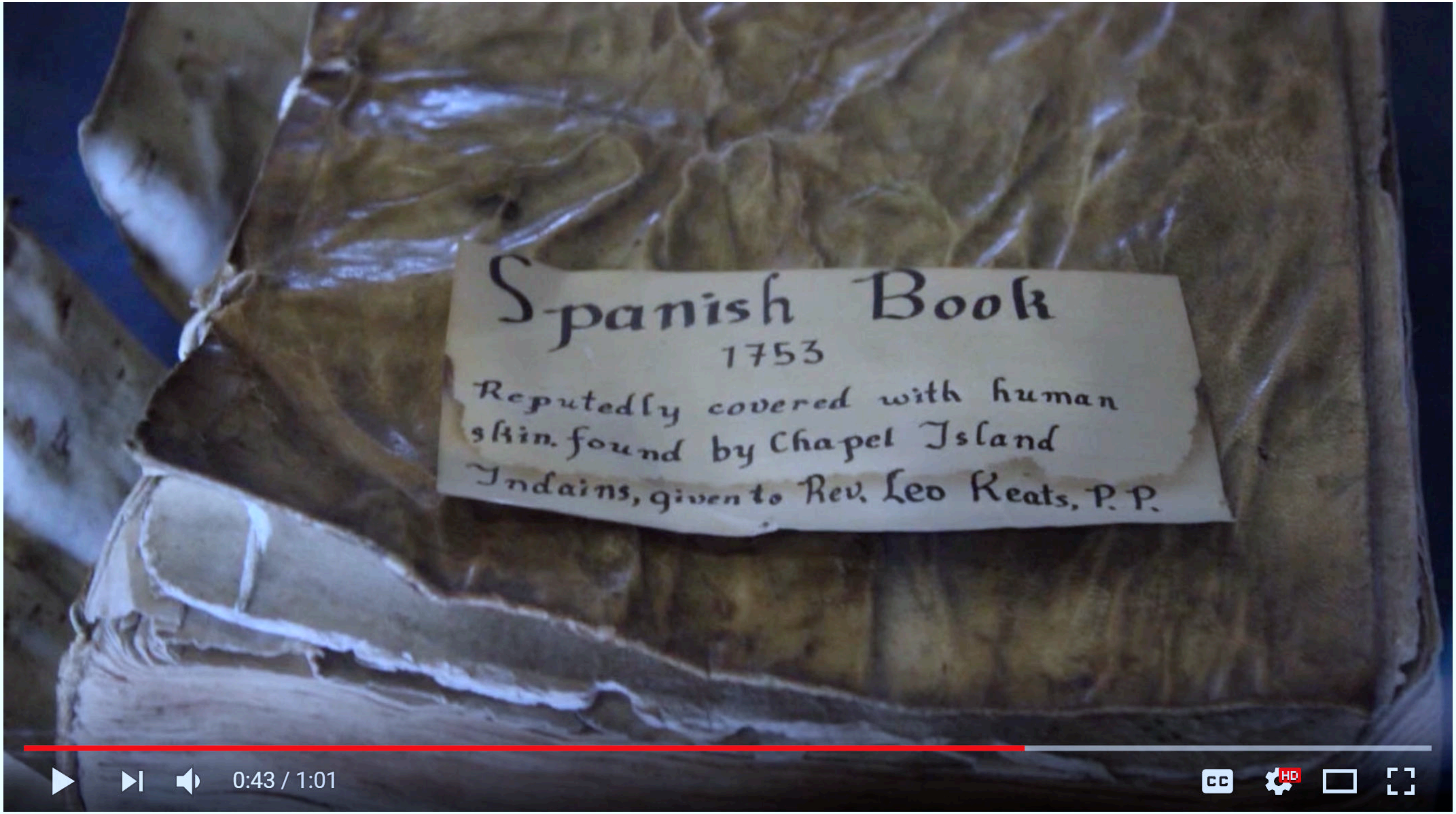
Below the knee – tough meat, too sinewy, working muscles, stewing (meat/vegie /slow cook)



Thigh meat - again, working muscle, slow cook – Osso Bucco

Buttocks (silverside or topside) slow roast, Mum's Sunday roast



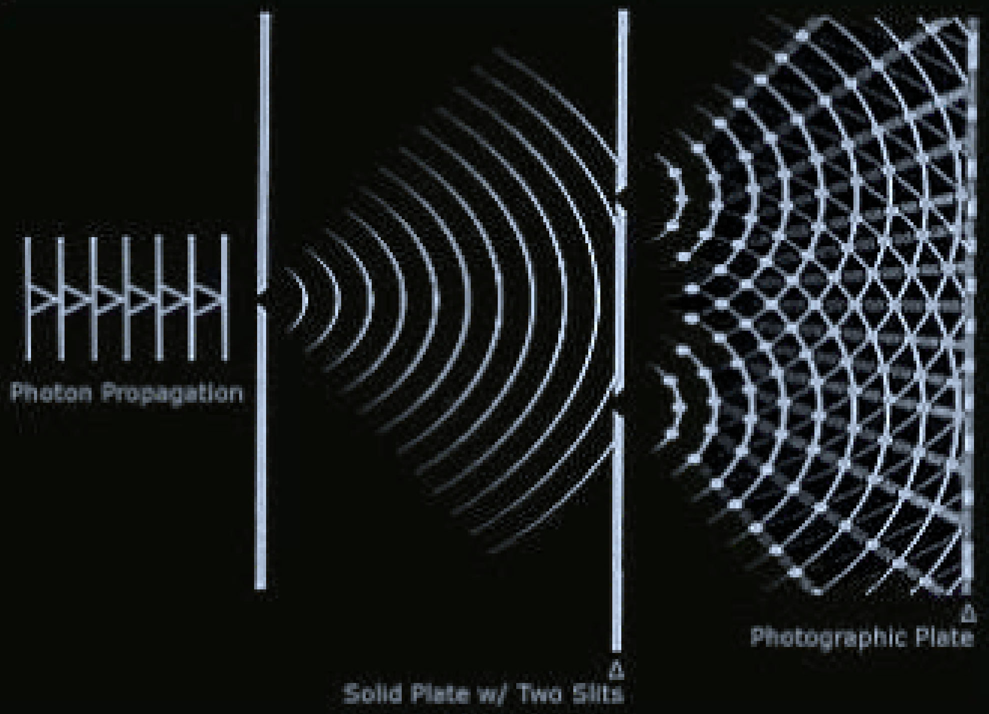


Spanish Book
1753
Reputedly covered with human skin. found by Chapel Island Indains, given to Rev. Leo Keats, P.P.

*Human Skin Covered Book - Anthropodermic bibliopegy - St.Peter's, Nova Scotia

The Most Beautiful Experiment

Quantum physics informs us that a system exists in superposition — that is, in all possible states — until we observe that it is only in one…

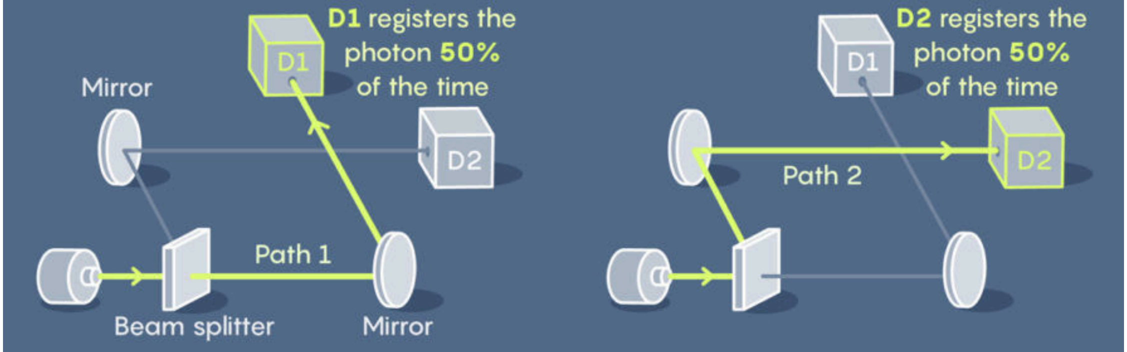

Photon Propagation
Solid Plate w/ Two Slits
Photographic Plate

The Delayed-Choice Experiment Explained

Are quantum objects “real” when they’re not observed? The delayed-choice experiment demonstrates that they can’t be. It shows that an unobserved photon is neither a wave nor a particle.

If the Photon Is a Particle

Fire a photon at a beam splitter. The photon acts as an indivisible particle. It takes either path 1 or path 2 and then goes on to hit detector D1 or D2.

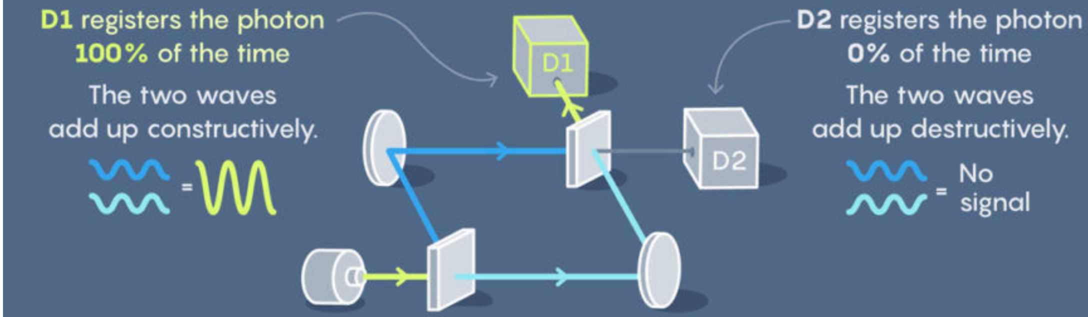


D1 registers the photon **50%** of the time

D2 registers the photon **50%** of the time

If the Photon Is a Wave

Add a second beam splitter. This time the photon acts as a wave. It seemingly splits into two waves at the first beam splitter. The waves recombine at the second. The photon always hits only one of the detectors.



D1 registers the photon **100%** of the time

The two waves add up constructively.

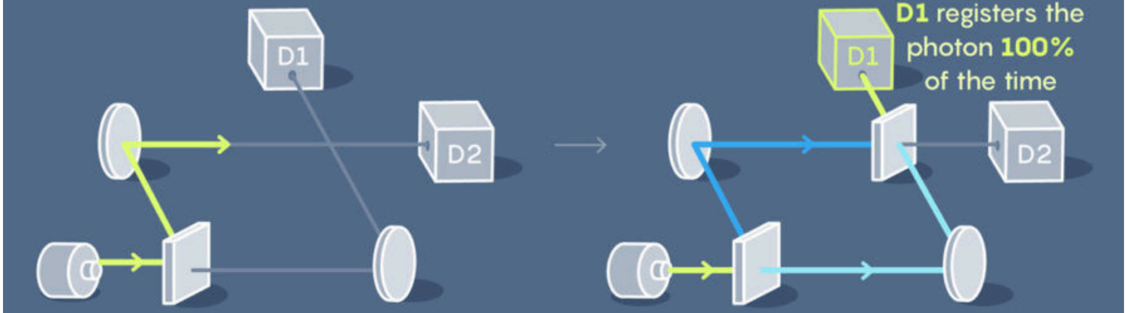
D2 registers the photon **0%** of the time

The two waves add up destructively.

No signal

Delayed Choice

Start with only one beam splitter. The photon should act like a particle. At the last moment, add the second beam splitter. The particle then suddenly changes to be wavelike, as if it was always going down both paths.



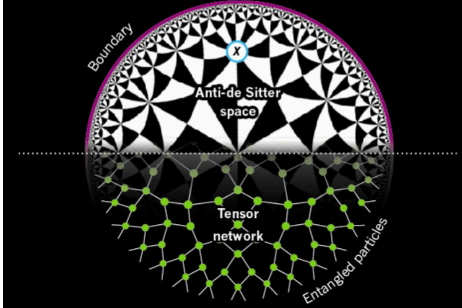
D1 registers the photon **100%** of the time

CONCLUSION: Either the addition of the beam splitter sent a signal backwards in time to influence the photon’s initial behavior, or photons do not have definite, intrinsic properties when they are not being observed.

THE ENTANGLEMENT CONNECTION

The ghostly quantum phenomenon of entanglement may be what knits space-time into a smooth whole.

In an infinite model universe known as anti-de Sitter space, the effects of gravity at any point *x* in the interior are mathematically equivalent to a quantum field theory on its boundary. This universe can be visualized in 2D by filling it with imaginary triangles. Although the triangles are identical, they look increasingly distorted as they approach the boundary.

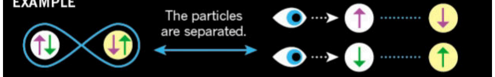


Physicists noticed that this pattern resembled diagrams called tensor networks, which were invented to show connections between quantum particles on a massive scale. These connections are known as quantum entanglement.

What is quantum entanglement?

In 1935, Albert Einstein, Boris Podolsky and Nathan Rosen (EPR) pointed out that a connection can exist between widely separated quantum systems: a measurement of one will determine the state of the other.

EXAMPLE

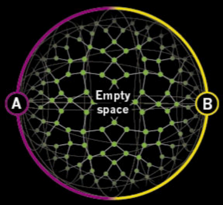


Entangled spins: if one particle is spinning up, the other spins down, and vice versa.

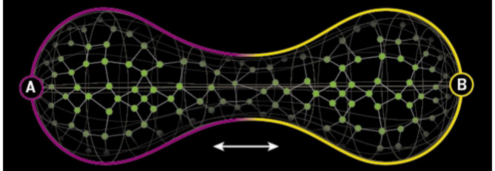
Observation of one particle instantaneously reveals the state of the other.

DISENTANGLEMENT

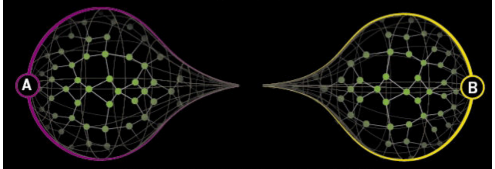
The bulk–boundary correspondence implies that space on the inside is built from quantum entanglement around the outside.



Even when the bulk universe is empty, the quantum fields in any two regions of the boundary (A and B) are heavily entangled with one another.



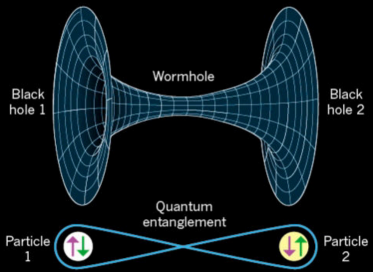
If the entanglement between these regions is reduced, the bulk universe ***starts pulling apart.***



When the entanglement is reduced to zero, the bulk universe splits in two — ***showing that entanglement is necessary for space to exist.***

ER = EPR

Also in 1935, Einstein and Rosen (ER) showed that widely separated black holes can be connected by a tunnel through space-time now often known as a wormhole.



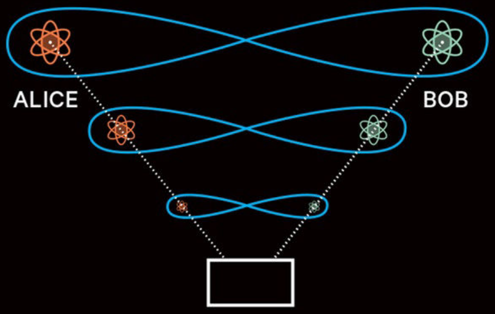
Physicists suspect that the connection in a wormhole and the connection in quantum entanglement ***are the same thing, just on a vastly different scale.*** Aside from their size there is no fundamental difference.

© nature

QUANTUM COMMUNICATION

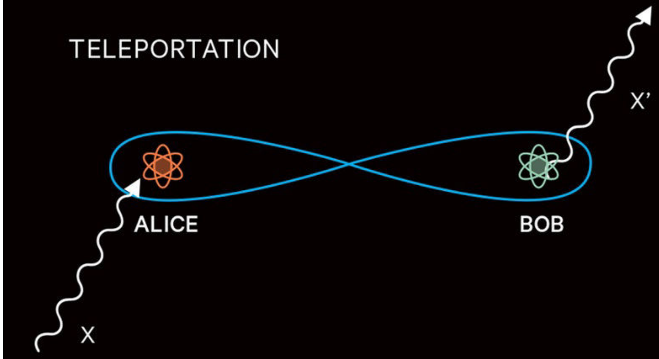
Quantum communication uses entanglement to create a quantum channel that connects two places.

ENTANGLEMENT



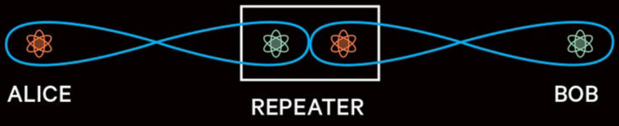
Pairs of entangled particles are generated and sent off to Alice and Bob. In principle, the entanglement can be preserved over any distance.

TELEPORTATION



Alice and Bob can use their quantum link to “teleport” information. If Alice performs a measurement on particle X, Bob can create a particle X’ with exactly the same properties.

REPEATERS



A quantum repeater joins two quantum connections together by “repeating” the quantum signals it receives. Repeaters could be daisy-chained to extend entanglement indefinitely.